

Host Plants of Leaf Beetle Species

Occurring in the United States
and Canada

Clark
•
LeDoux
•
Seeno
•
Riley
•
Gilbert
•
Sullivan



Host plants of leaf beetle species occurring in the United States and Canada

**(Coleoptera: Megalopodidae, Orsodacnidae,
Chrysomelidae, excluding Bruchinae)**

Shawn M. Clark
Monte L. Bean Life Science Museum
Brigham Young University
Provo, Utah 84602-0200

Douglas G. LeDoux
Chase Studio, Inc.
205 Wolf Creek Road
Cedarcreek, Missouri 65627-7374

Terry N. Seeno
California Department of Food and Agriculture
Plant Pest Diagnostics Laboratory
3294 Meadowview Road
Sacramento, California 95832-1448

Edward G. Riley
Department of Entomology
Texas A. & M. University
College Station, Texas 77845-2475

Arthur J. Gilbert
California Department of Food and Agriculture
2889 N. Larkin, Suite #106
Fresno, California 93727

James M. Sullivan
Our Lady of Mercy Church
1607 Ville Maura Lane
Hazelwood, Missouri 63042-1654



Special Publication No. 2
Chris Carlton, Editor

The Coleopterists Society
3294 Meadowview Road, Sacramento, CA 95832-1448

Dedicated to



John Avery Wilcox[†]

Friend,
Mentor,
Cataloger,
Chrysomelidist,
Devoted Husband

John A. Wilcox[†] (August 24, 1921–September 18, 2003) with his wife Virginia "Ginny" (Stevenson) Wilcox. This photograph was taken in September 1998. John and Ginny were married November 22, 1947, and their marriage extended just two months short of 56 years at the time of his death.

He will be missed by his family and friends.

©2004 The Coleopterists Society

Producer: Terry N. Seeno

Printed: Enterprise Printing, Sacramento

ISBN: 0-9726087-3-7

Mailing date: April 20, 2004

Photos (top to bottom, left to right):

Front Cover—*Labidomera clivicollis* (Kirby), *Griburius scutellaris* (Fabricius), *Disonycha discoidea* (Fabricius), and *Chrysochus auratus* (Fabricius); Back Cover—*Anomoea flavokansiensis* Moldenke, *Chalepus bicolor* (Olivier), and *Zygogramma heterothecae* Linell.

Special publications of the Society are subject to the same standards and review requirements as are contributions to *The Coleopterists Bulletin* except that more editorial latitude is permitted. Instructions to authors are posted on the Society website <<http://www.coleopsoc.org/>>

Contents

Abstract 3

Introduction 3

Methods 4

Acknowledgments 6

Leaf Beetles and Associated Plants 7

Leaf Beetles Listed by Plants 213

Literature Cited 355

Appendix 1: Classification of Leaf Beetle Genera in the United States and Canada. . . . 469

Appendix 2: Classification of Vascular Plant Families Cited in this Publication 473

Abstract

A cross-indexed catalog to the known plant associations for the leaf beetles (Megalo-
podidae, Orsodacnidae, Chrysomelidae excluding Bruchinae) of America north of Mexico
and of Hawaii is presented. Plant association records from the literature are summarized
for 1,341 leaf beetle species occurring in the region. Under each beetle species, associations
are briefly recounted, typically listing the plants as they were originally cited, sometimes
as common names and sometimes as antiquated scientific names. The modern scientific
names are given as well. Also under the treatment of each beetle species, literature citations
are given that document the plant associations. A separate index is presented that lists plant
species, each followed by associated beetle species. The index also includes the above-men-
tioned common and antiquated plant names, with the reader being referred to the modern
scientific names. Beyond literature reports, original observations are provided for many
of the leaf beetle species of the region, including 90 species for which no previous plant
associations had been previously published. In total, some level of plant association data is
given for approximately 79% of the leaf beetle species occurring in the region. A bibliogra-
phy is provided and includes the more than 3,825 references cited in the text.

Introduction

The leaf beetles, in great part, comprise one of the largest beetle families and thus contribute significantly to the remarkable species richness of Coleoptera. They are among the most conspicuous beetles on plants, and they are perhaps best known for their phytophagous habit, a trait that has assured for them an enduring place of importance. Many species are quite host-specific, feeding only on a single plant species or on several closely related plants. However, others are generalists that feed on a wide variety of plants.

Adult leaf beetles consume plants in a great variety of ways, but frequently by direct eating of the living foliage. This often produces characteristic damage. Beyond foliage feeding, fair numbers consume pollen or other floral parts.

Larval feeding habits are greatly varied. Many larvae occur openly on exposed leaves, consuming foliage much like the adult stage. However, others feed in more secluded locations, such as leaf axils or unopened leaves. Some, such as Zeugophorinae and many Cassidinae, are leaf miners that consume foliage from within. Also, large numbers of leaf beetle larvae, such as Eumolpinae and many Galerucinae, are subterranean, and they feed on the underground portions of their hosts. Other leaf beetle larvae are detritivores. These larvae belong to the subfamily Cryptocephalinae, live within coverings constructed of their own feces, and are known as the casebearers. Some casebearers feed openly on green leaves, but most probably consume dead plant materials such as fallen leaves found among soil surface litter. Some casebearers are recorded asinquilines of ants.

Vascular plants (ferns and seed plants) of nearly all types are fed upon by leaf beetles. Aquatic plants of freshwater systems are hosts in some instances. Some beetles (*Donacia*, *Plateumaris*, etc.) utilize submerged portions as well as emergent portions of these plants. As far as is known, leaf beetles do not utilize non-vascular species such as mosses and liverworts, in spite of a few reports of beetles on these plants. Many plants of economic importance are used as food by leaf beetles, and much has been learned about the general biology of leaf beetles, due to the intense study of pest species.

There have been surprisingly few compilations of leaf beetle plant associations for North America. The most important of these is that of Wilcox (1979). However, his work covers only species of the northeastern United States, lacks a comprehensive bibliography and citations for individual beetle-plant associations, and is sorely incomplete. On a worldwide basis, there have been numerous taxon-specific compilations of plant records for various groups of Chrysomelidae. Most notable are those of Pierre Jolivet and his collaborators (Jolivet, 1977, 1978, 1987a, 1987b, 1988a, 1988b, 1989c, 1991a; Jolivet & Petitpierre, 1976a, 1976b; Jolivet *et al.*, 1986). A comprehensive overview of worldwide leaf beetle host plants was provided by Jolivet and Hawkeswood (1995), but this work is more summary in nature, presenting mostly associations at the beetle genus to plant genus level.

Our experience with the literature and from our field observations has convinced us that we are far from understanding the “big picture” of leaf beetle-host plant relationships and even further from filling in the details. The subject matter is very complex, being complicated by the nature of the food relationships, and especially by the variable quality of the published reports. The logical first step towards gaining a complete big picture is to compile the details and make them available to the present and next generations of researchers. Presented below is our compilation of the published plant associations for leaf beetles occurring in America north of Mexico (as well as in Hawaii), a region with a relatively well-understood leaf beetle fauna. It is our attempt to provide a baseline to support further studies on leaf beetles and their food plants. Also provided herein are numerous new observations based on our own field work, including the first reported associations for 90 North America leaf beetle species. At present, some level of plant-association information is known for approximately 79% of the 1,341 leaf beetle species recorded from the region.

Methods

As defined in this publication, the term “leaf beetle” refers to all species in the family Chrysomelidae (except the bruchines), plus all species of Orsodacnidae and Megalopodidae, two basal lineages that have recently been removed from the Chrysomelidae. However, this term does not encompass the chrysomelid subfamily Bruchinae. This group is still recognized as a distinct family by some workers, even though it quite clearly falls within the chrysomelid clade. Whatever the classification, bruchine habits are quite distinct, and the common name “seed beetles” is appropriate. An outline of leaf beetle classification is presented in Appendix 1.

The bulk of our publication consists of two sections. First is an alphabetical list of leaf beetle species, each accompanied by a report of the plants with which it has been recorded, and sometimes also by brief commentary. Second is an alphabetical list of plant species mentioned in the first section, each plant name being followed by beetle species that have been reported from it. This second section lacks any commentary, and it should be viewed more as a mere index to the first section, rather than as a list of valid hosts. In fact, reading of the first section will reveal that many plant/beetle combinations are likely based on misidentification or incidental occurrences.

Geographically, this publication includes leaf beetle species that are known to occur in Canada or the United States (all 50 states, including Hawaii). It includes all such species for which we are aware of published plant associations, plus some species for which we provide previously unpublished associations based on our own investigations. However, it does not mention the numerous beetle species for which we are not aware of any associated plants.

Publications containing host plant information are seemingly innumerable. It would be nearly impossible to include all of them in a study of this sort. Even so, the review of North American literature has been extensive, far exceeding that done for any preceding treatise on leaf beetle host plants. For introduced species and species that naturally occur outside of the United States and Canada, foreign references are sometimes cited, but the review of such literature has been rather superficial.

In general, practically any mention of plant associations has been cited in the following treatment. This includes even casual mention of previously published observations. One major exception involves theses and dissertations. In instances where these have been formally published subsequently, little changed from their original form, only the formal publication is usually cited, without mention of the thesis or dissertation. Additionally, nearly countless publications involve investigations of well-documented pest species on their normal hosts. Many such articles were examined, and a large number of them are cited in the following treatment. However, many others are not cited. Publications such as The Canadian Agricultural Insect Pest Review, the United States Department of Agriculture Cooperative Economic Insect Report, and the United States Department of Agriculture Cooperative Plant Pest Report are usually cited only when they are the source of otherwise undocumented or poorly documented plant associations. Sometimes, beetles are reported as being in fields of agricultural crops. Unless there is mention of the insect actually occurring on the crop plant, such records are often not cited.

Literature reports of plant associations vary greatly in their validity. At one end of the scale, there are well-documented relationships where larvae and adults have repeatedly been found devouring a particular plant species, and there is clear evidence that the beetle species would probably not survive in the absence of this plant. At the other end of the scale, there are records of beetles merely being on or near a particular plant, without any mention of feeding. Many recorded associations fall somewhere between these two extremes. In the following text, we often provide commentary indicating which plants are normal food plants, which are occasionally fed upon, and which are likely incidental occurrences (or based on misidentification). However, it is frequently difficult or impossible to judge the value of a reported association from the literature alone. Terminology such as “host,” “plant association,” “food plant,” “normal food plant,” and “larval food plant” is sometimes helpful. However, the meaning of such words differs dramatically from author to author. Very often, the only information provided is that beetles were found on a particular plant. In view of these difficulties in evaluating the validity of reported plant associations, we list many plants without commentary, and it is left to future investigators to either confirm or cast doubt on these records.

As stated above, we have included practically every mention of leaf beetles found on plants. No doubt, some inadequately documented plant associations are indeed valid. In some cases, a seemingly less credible literature report may be the key to locating and confirming an actual food plant. This is well illustrated by the case of *Cassida relicta* Spaeth. Riley (1986b) regarded this species as “perhaps the rarest of the United States cassidines.” However, among the few specimens that he had managed to find in numerous collections, a single beetle was labeled as being swept from *Gaillardia*. Subsequent to his report, targeted collecting from this plant has documented a clear larval and adult host relationship for this beetle species.

We generally follow the beetle nomenclature given in the catalog of Riley *et al.* (2003). One notable exception to this rule involves *Neolochmaea oblitterata* (Olivier). This species was called *N. dilatipennis* (Jacoby) in the catalog, but we follow the recent synonymy given by Takizawa (2003). Also, we accept the work of Gómez-Zurita *et al.* (2004) who treat *Calligrapha suturella* Schaeffer as a valid species, separate from *C. multipunctata* (Say). Beyond this, the adventive species *Chrysophtharta m-fuscum* (Boheman) and *Sphaeroderma testaceum* (Fabricius) have been reported from North America subsequent to the publication of the catalog. Also, several Hawaiian species are treated here but are beyond the geographic coverage of Riley *et al.*

Both common plant names and scientific plant names are used in literature dealing with leaf beetle biology. In instances where both appear for a particular beetle/plant association, only the scientific name is reported in the pages that follow. In instances where only the common name appears in the literature, it is given and is followed by the presumed scientific name enclosed in brackets. If common names are given in foreign language publications, we have generally given them in quotation marks. If an antiquated scientific name appears in the literature (without the modern name appearing also among the references examined), the old name is given, followed by the updated name in brackets. However, in instances where a plant species has merely been transferred from one genus to another, without changing the species epithet, the updated plant name is given, without indication of the previous genus. In some instances, one publication reports plants identified only to the generic level, and another publication reports the actual species. Although literature dealing with these generically identified plants is referenced in the following pages, the generic names are not listed separately from the species names. For example, “*Alnus* sp.” is generally not listed if “*Alnus incana* (L.) Moench” has also been recorded as the host for a particular beetle species.

We have generally accepted as up-to-date the botanical names given in the Missouri Botanical Garden’s VAST (VAScular Tropicos) nomenclatural database and associated authority files (<http://mobot.mobot.org/W3T/Search/vast.html>), in the International Plant Names Index (<http://www.ipni.org/index.html>), and/or in the Integrated Taxonomic Information System (<http://www.itis.usda.gov/>). Occasionally, plant names are given in the literature, but they do not appear in the above-mentioned databases or in other references that we have consulted. Some of these names may be valid, but others are probably grossly misspelled or informally contrived (*nomina nuda*). Whichever the case, we list such unverified names in quotation marks.

In spite of the extensive host data gleaned from published literature, the following list is intended to be the starting place for future studies, rather than the final word. Many reported host associations are based on adventitious occurrences. Additionally, numerous published associations resulted from misidentified insects or misidentified plants. Sometimes, these errors were due to poorly defined species at the time the observations were made. In other instances, blatant mistakes were made by workers who should have been more careful. Although, some of the more obvious incidental associations and misidentifications are pointed out in commentary accompanying the following list, carefully prepared biological studies will nonetheless require examination of the cited literature to evaluate the validity of some records.

As suggested above, most of the following list is a compilation of host records from already published accounts. However, we have included also numerous associations based on original field observations. Additionally, we have included some information obtained from insect specimen labels. In determining which new plant associations to include, we have most often taken a decidedly conservative approach, reporting here only those we feel confident about, such as those based on actual observation of feeding, association of beetles with feeding damage, or a repeated association of a particular beetle species with a particular plant species. We have been extra cautious in accepting plant association records from specimens labeled as having been taken on a certain plant. Most of the associations reported here from label data are instances where we identified beetles submitted by reputable collectors and plant identifiers.

Acknowledgments

The following people are thanked for their contributions. Brian D. Farrell, David G. Furth, Alexander S. Konstantinov, Laurent LeSage, John E. Rawlins, G. Allan Samuelson, Charles A. Triplehorn, and John A. Wilcox assisted in obtaining literature. Botanists N. Duane Atwood, G. D. Barbe, Dan K. Evans, Stephan Hatch, G. F. Hrusa, Brian R. McDonald, Monique Reed, James René Spencer, and Stanley L. Welsh helped with plant identifications. James L. Krysan read over the *Diabrotica* section and offered useful comments. Robert A. Androw, Robert C. Mower, C. Riley Nelson, George O. Poinar, Foster F. Purrington, Derek Sikes, Michael C. Thomas, John R. Watts, and Andrew H. Williams contributed previously unpublished host associations from their personal observations. Thomas O. Robbins provided records from the USDA-ARS Grassland, Soil and Water Research Laboratory. Carl Winther and Scott Kinnee provided guidance and help with graphics and publication. Adrienne Warner assisted in the preparation of the appendices. Some travel funds were provided by the small grants program of Discover Life in America.

Leaf Beetles and Associated Plants

***Acallepitrax nitens* (Horn).** Associations have been recorded for species of *Physalis* (Solanaceae), including *P. longifolia* Nutt. (Clark, 2000; Riley & Enns, 1979; Riley *et al.*, 2002; Wilcox, 1979). Adults are also reported to feed on *Solanum* (Solanaceae) (Riley *et al.*, 2002). In previously unpublished field work, we have collected adults from *Solanum americanum* P. Mill.

Beyond Solanaceae, Lee (1949) found one specimen while surveying for insects associated with *Cercis canadensis* L. (Fabaceae). However, this occurrence was surely incidental.

***Acalymma blandulum* (LeConte).** This species has been associated with Cucurbitaceae, including *Cucurbita foetidissima* Kunth in H. B. K. (Chittenden, 1924d; LeConte, 1868; Metcalf, 1979; Metcalf *et al.*, 1994; Munroe & Smith, 1980; Riley & Enns, 1979; Smith, 1966). In Mexico, it has also been reported from *C. moschata* (Duchn. ex Lam.) Duchn. ex Poir. and *C. pepo* L. (Munroe & Smith, 1980).

***Acalymma gouldi* Barber.** This species has been associated with cantaloupe [*Cucumis melo* L.], *Cucumis sativus* L., *Cucurbita foetidissima* Kunth in H. B. K., *C. maxima* Duchn. ex Lam., *Echinocystis lobata* (Michx.) Torr. & Gray, and *Sicyos angulatus* L. (Cucurbitaceae) (Anonymous, 1963c; Barber, 1947; Downie & Arnett, 1996; Gould, 1959a; Lammers, 1964; Metcalf, 1979; Metcalf *et al.*, 1994; Munroe & Smith, 1980; Smith, 1966; Wilcox, 1965, 1979).

***Acalymma peregrinum* (Jacoby).** This species has been recorded from *Cucumis melo* L. and *Marah* (Cucurbitaceae) (Metcalf, 1979; Smith, 1966). It has also been reported from *Physalis mollis* Nutt. (Solanaceae) (Riley *et al.*, 2002; Schaeffer, 1905). In previously unpublished investigations, we have collected adults of this beetle species from *Melothria pendula* L. (Cucurbitaceae) in southern Texas.

***Acalymma trivittatum* (Mannerheim).** Both larvae and adults feed on Cucurbitaceae, this species having been associated with *Citrullus vulgaris* Schrad. ex Eckl. & Zeyh. [*C. lanatus* (Thunb.) Matsum. & Nakai], *Cucumis melo* L., *C. sativus* L., *Cucurbita foetidissima* Kunth in H. B. K., *C. maxima* Duchn. ex Lam., *C. pepo* L., *Marah*, and *Sechium edule* (Jacq.) Sw. (Abdullah & Qureshi, 1968; Beller & Hatch, 1932; Carr, 1988; Chittenden, 1899b, 1910; Crosby & Leonard, 1918; Domínguez & Carrillo, 1976; Eben & Barbercheck, 1996; Elmore & Campbell, 1936; Essig, 1915b, 1958; Essig & Hoskins, 1944; Freitag, 1956; Gould, 1962; Horne & Essig, 1921; King & Saunder, 1984; Maes & Staines, 1991; Metcalf, 1979; Metcalf *et al.*, 1994; Michelbacher *et al.*, 1953; Munroe & Smith, 1980; Passoa, 1983; Rhodes *et al.*, 1980; Rodriguez-del-Bosque & Magallanes-Estala, 1994; Sell, 1915; Smith, 1966; Westcott, 1946; Wilcox, 1965).

Barber (1947) reported Costa Rican material “not distinguishable from Californian samples of *trivittata*” associated with *Cucurbita pepo*. However, Costa Rica is somewhat beyond the distribution of *A. trivittatum* as it was recognized by Munroe & Smith (1980) who reported this species from only as far south as Guatemala.

Adults of *A. trivittatum* have also been reported from *Yucca whipplei* J. Torrey (Agavaceae); *Artemisia californica* Less., *Baccharis pilularis* DC., *Helianthus annuus* L. (Asteraceae); *Beta vulgaris* L. (Chenopodiaceae); alfalfa [*Medicago sativa* L.], *Phaseolus vulgaris* L., *Pisum sativum* L. (Fabaceae); *Hemerocallis* (Liliaceae); cotton [*Gossypium*] (Malvaceae); mulberry [*Morus*] (Moraceae); *Zea mays* L. (Poaceae); quince [*Cydonia oblonga* Mill.], loquat [*Eriobotrya japonica* (Thunb.) Lindl.], *Pyrus malus* L. [*Malus sylvestris* P. Mill.], *Prunus armeniaca* L., almond [*P. dulcis* (Mill.) D. A. Webb], *P. galatensis* Poir., *P. amygdalus* (L.) Batsch [*P. persica* (L.) Batsch], pear [*Pyrus*] (Rosaceae); *Lycopersicon esculentum* Mill., *Physalis pubescens* L., and *Solanum tuberosum* L. (Solanaceae) (Anonymous, 1960k; Beller & Hatch, 1932; Carr, 1988; Chittenden, 1898a, 1899b; Comstock, 1880; Davis, 1931; Dudley *et al.*, 1952; Essig, 1915b, 1958; King & Saunder, 1984; Knowlton, 1957a; MacGregor & Gutiérrez, 1983; Melhus *et al.*, 1954; Neiswander, 1931; Painter, 1955; Radcliffe *et al.*, 1990; Sweet, 1930; Telford, 1957; Tilden, 1951; Webster, 1895b; Wene *et al.*, 1965; Werner *et al.*, 1979; Westcott, 1946; Wilcox, 1965). Additionally, insects thought to probably be *A. trivittatum* have been reported from bean [likely *Phaseolus vulgaris*] (Fabaceae) (Anonymous, 1966u).

A similar eastern beetle species, *Acalymma vittatum* (Fabricius), has sometimes been reported from western states. Such records were almost certainly based on misidentifications of *A. trivittatum*. For further discussion, see the treatment of *A. vittatum* below.

***Acalymma vinctum* (LeConte).** This species is associated with Cucurbitaceae, having been recorded from cucumber [*Cucumis sativus* L.] and *Cucurbita okechobeensis* (Small) L. H. Bailey (Kirk, 1970; Metcalf, 1979; Peck & Thomas, 1998; Smith, 1966). Associations with fern [Pteridophyta] and *Ambrosia* (Asteraceae) have also been reported (Blatchley, 1914, 1924a), but they were likely incidental.

***Acalymma vittatum* (Fabricius).** The most important hosts, perhaps the only larval hosts, are Cucurbitaceae, *A. vittatum* having been recorded from *Citrullus lanatus* (Thunb.) Matsum. & Nakai, *Cucumis melo* L., *C. sativus* L., *Cucurbita cylindrata* L. H. Bailey, *C. digitata* A. Gray, *C. ecuadorensis* Cutler & Whitaker, *C. ficifolia* Bouché, *C. foetidissima* Kunth in H. B. K., *C. gracilior* Bailey, *C. lundelliana* Bailey, *C. martinezii* Bailey, *C. maxima* Duchn. ex Lam., *C. mixta* Pang., *C. moschata* (Duchn. ex Lam.) Duchn. ex Poir., *C.*

okeechobeensis (Small) L. H. Bailey, *C. palmata* S. Wats., *C. palmeri* Bailey, *C. pedatifolia* Bailey, *C. pepo* L., *C. sororia* Bailey, *C. texana* A. Gray, *Echinocystis lobata* (Michx.) Torr. & Gray, *Lagenaria siceraria* (Mol.) Standl., balsam-apple [*Momordica*], *Sechium edule* (Jacq.) Sw., and *Sicyos angulatus* L. (Abdullah & Qureshi, 1968; Andersen & Metcalf, 1986, 1987; Anonymous, 1894a; Arnett, 1985; Bach, 1977, 1980a, 1980b, 1981; Baerg, 1949; Balduf, 1925; Balsbaugh & Hays, 1972; Barber, 1947; Beirne, 1971; Beutenmüller, 1890a; Blatchley, 1910, 1924a; Blum, 1994; Borror & White, 1970; Borror *et al.*, 1989; Brewer *et al.*, 1987; Britton, 1919; Brust & Foster, 1995; Burkness & Hutchison, 1997, 1998; Burnside & Barry, 1976; Butcher, 1932; Carr, 1988; Chagnon, 1917, 1938; Chagnon & Robert, 1962; Chio *et al.*, 1978; Chittenden, 1898a, 1899b, 1902a, 1903d, 1909c, 1912b, 1919, 1923b, 1924d; Chupp & Leiby, 1953; Clark, 2000; Comstock, 1925; Comstock *et al.*, 1931; Cranshaw, 1992; Crosby & Leonard, 1918; Davidson & Lyon, 1987; Dearborn & Donahue, 1993; Dillon & Dillon, 1961; Douglass, 1929; Downie & Arnett, 1996; Dustan, 1932; Eben, 1999; Edelson, 1986; Edwards, 1949; Fabricius, 1801; Felt, 1900, 1902a; Fitch, 1865; Forbes, 1905; Forbes & Hart, 1900; Fronk & Slater, 1956; Garman, 1921a; Genung, 1953a; George & Hintz, 1966; Gould, 1939, 1944, 1959a, 1962; Hall, 1899; Harrington, 1883; Harris, 1841, 1863; Haseman, 1931; Hatch, 1924b; Headlee, 1908a, 1908b; Hopkins & Rumsey, 1896; Houser & Balduf, 1925; Howe & Rhodes, 1976; Howe & Zdarkova, 1971; Howe *et al.*, 1972; Hockett, 1929a, 1929b; Hutson, 1937; Isely, 1927; Jewett, 1927, 1932; Johnson, 1927; Kellogg, 1892; Kirk, 1970; Krysan & Branson, 1983; Lawrence & Bach, 1989; Lawson, 1991; LeConte, 1865; Lintner, 1895; Little, 1972; Lochhead, 1913; Löding, 1945; Lowry, 1918; Lowry & Watson, 1929; Lugger, 1899; Marsh, 1910; Marshall, 1926; Metcalf, 1979, 1986b; Metcalf & Metcalf, 1993; Metcalf & Rhodes, 1990; Metcalf *et al.*, 1982, 1994; Milliron, 1958; Munroe & Smith, 1980; Neiswander, 1931; Olivier, 1808; Orton & Chittenden, 1917; Overman & MacCarter, 1972; Packard, 1877, 1888; Papp, 1984; Peck & Thomas, 1998; Peterson, 1960; Proctor, 1938, 1946; Quesada *et al.*, 1995; Radin & Drummond, 1994; Rau & Rau, 1916; Reed *et al.*, 1984; Rhodes *et al.*, 1980; Riley, 1870d; Riley & Enns, 1979; Ritcher, 1932; Rouse & Medvedev, 1972; Sanderson & Peairs, 1931; Severin, 1919a; Shimer, 1865, 1871; Sirrine, 1899; Smith, 1893a, 1893b, 1900, 1910a, 1943, 1966; Sorensen, 1993; Sorensen & Baker, 1983; Strauss, 1988; Swan & Papp, 1972; Sweetman, 1925; Watson, 1918; Watson & Berger, 1937; Webster, 1895b, 1896, 1913a; Westcott, 1946; Wickham, 1897; Wilcox, 1954, 1965, 1979; Wilson *et al.*, 1982; Wiseman *et al.*, 1961). Beyond these reports, Shimer (1865) reported *A. vittatum* from “Honolulu squash.”

This beetle species has also been found on non-cucurbitaceous plants, although usually less abundantly, sometimes only in early spring or late autumn when cucurbits are not available, and frequently only on blossoms. Such associations include pigweed [*Amaranthus*] (Amaranthaceae); *Chaerophyllum procumbens* (L.) Crantz, *Erigenia bulbosa* (Michx.) Nutt., *Heracleum lanatum* Michx., *Pastinaca sativa* L., *Sium cicutifolium* Schrank, *Zizia aurea* (L.) W. D. J. Koch (Apiaceae); *Ambrosia trifida* L., burdock [Arctium], *Aster tardiflorus* L., *A. sagittifolius* Willd., calendula [*Calendula*], German aster [*Callistephus chinensis* (L.) Benth.], chrysanthemum [*Chrysanthemum* or a similar genus], daisy [*Chrysanthemum* or similar genus], dahlia [*Dahlia*], *Helianthus annuus* L., *H. tuberosus* L., *Solidago altissima* L., *S. canadensis* L., *S. rugosa* P. Mill., *Symphotrichum ericoides* (L.) Nesom, *S. lateriflorum* (L.) A. & D. Löve, *S. puniceum* (L.) A. & D. Löve, *Taraxacum erythrospermum* Andr. [*T. laevigatum* (Willd.) DC.], *T. officinale* Weber ex F. H. Wiggers, zinnia [*Zinnia*] (Asteraceae); *Brassica pekinensis* (Lour.) Rupr. [*B. rapa* L.], radish [*Raphanus sativus* L.], *Brassica kaber* (DC.) L. C. Wheeler [*Sinapis arvensis* L.] (Brassicaceae); *Viburnum nudum* L., *V. prunifolium* L., *V. pubescens* (Ait.) Pursh (Caprifoliaceae); *Beta vulgaris* L., *Chenopodium album* L. (Chenopodiaceae); *Cornus alternifolia* L. f. (Cornaceae); *Arachis hypogaea* L., *Cercis canadensis* L., *Glycine max* (L.) Merr., *Medicago sativa* L., lima bean [*Phaseolus lunatus* L.], *Phaseolus vulgaris* L., *Pisum sativum* L., *Vicia villosa* Roth, *Vigna sinensis* (L.) Savi ex Hassk. [*V. unguiculata* Clav.] (Fabaceae); *Quercus palustris* Muenchh., *Q. rubra* L. (Fagaceae); *Geranium maculatum* L. (Geraniaceae); fetid buckeye [*Aesculus glabra* Willd.], horse-chestnut [*Aesculus hippocastanum* L.] (Hippocastanaceae); *Hydrophyllum* (Hydrophyllaceae); *Abelmoschus esculentus* (L.) Moench, *Alcea rosea* L., cotton [*Gossypium*] (Malvaceae); *Ligustrum ibota* Sieb. & Zucc., *Syringa* (Oleaceae); *Cypripedium acaule* Ait. (Orchidaceae); *Phytolacca decandra* L. [*P. americana* L.] (Phytolaccaceae); *Sorghum halepense* (L.) Pers., wheat [*Triticum*], *Zea mays* L. (Poaceae); curled dock [*Rumex crispus* L.] (Polygonaceae); *Enemion biternatum* Raf., *Ranunculus septentrionalis* Poir. (Ranunculaceae); *Amelanchier canadensis* Medik., juneberry [*A. laevis* Wiegand], *A. ovalis* Medik., *Aronia arbutifolia* (L.) Pers., *Crataegus coccinea* auct. non L. [*C. intricata* Lange], *C. mollis* (Torr. & A. Gray) Scheele, *Malus pumila* Mill., *M. sylvestris* P. Mill., *Prunus virginiana* L., cherry [*Prunus*], plum [*Prunus*], *Pyrus communis* L., *Rosa*, raspberry [*Rubus*] (Rosaceae); Satsuma orange [*Citrus reticulata* Blanco] (Rutaceae); *Salix longifolia* Lam., *S. nigra* Marsh. (Salicaceae); jimson weed [*Datura*], thorn apple [*Datura*], tobacco [*Nicotiana*], Chinese lantern [*Physalis alkekengi* L.], *Solanum melongena* L., *S. tuberosum* L. (Solanaceae); elm [*Ulmus*] (Ulmaceae); and *Urtica gracilis* Ait. [*U. dioica* ssp. *gracilis* (Ait.) Seland.] (Urticaceae) (Anonymous, 1941, 1961b, 1962m; Ashmead, 1890, 1894; Bach, 1980a; Balduf, 1925; Beirne, 1971; Beisler *et al.*, 1977;

Blatchley, 1910, 1924a; Boiteau, 1983a; Bray & Triplehorn, 1953; Britton, 1919; Carr, 1988; Chittenden, 1898a, 1903d, 1909c, 1912b, 1919, 1923b; Crosby, 1929; Crosby & Leonard, 1918; Dawson, 1961; Dekle *et al.*, 1964; Dorsey & Hansen, 1956; Douglass, 1929; Dudley *et al.*, 1952; Dustan, 1932; Ebeling, 1959; Fitch, 1865; Forbes, 1905; Forbes & Hart, 1900; Garman, 1921a; Gould, 1944, 1958; Hall, 1899; Harris, 1841, 1863; Haseman, 1931; Hayes, 1922; Headlee, 1908a, 1908b; Houser & Baldof, 1925; Isely, 1927; Jansen & Staples, 1971; Jewett, 1927, 1932; Johnson, 1915; Jolivet, 1979a; Kirk, 1970; Knowlton, 1961; Lee, 1949; Lintner, 1888; Little, 1972; Lovell, 1915; Lowry, 1918; Lugger, 1899; Marshall, 1926; Metcalf & Metcalf, 1993; Metcalf & Rhodes, 1990; Meyer, 1979, 1980b; Milliron, 1958; Motsenbocker, 1954; Neiswander, 1931; Newsom, 1963i; Packard, 1877, 1890; Papp, 1984; Patch, 1913; Proctor, 1938, 1946; Quayle, 1938; Rau & Rau, 1916; Riley, 1870a; Ritcher, 1932; Robertson, 1892a, 1894a, 1894b, 1898, 1929; Severin, 1919a; Sirrine, 1899; Smith, 1893b; Sorensen, 1993; Sorensen & Baker, 1983; Spink, 1960a, 1960c; Swan & Papp, 1972; Sweetman, 1925; Turnipseed & Kogan, 1976; Walker, 1979a; Watson, 1918; Watson & Berger, 1937; Wave, 1964; Webster, 1890b, 1895b; Weese, 1925; Weigel & Baumhofer, 1948; Westcott, 1946; Wilcox, 1965, 1979; Wilson *et al.*, 1982).

Beyond these records, Marsh (1910) reported beetles from *Amaranthus* (Amaranthaceae) and cabbage [*Brassica oleracea* L.] (Brassicaceae). However, he stated that they were only hiding in these plants for protection from the sun. Wray & Brimley (1943) reported *A. vittatum* from *Sarracenia flava* L. (Sarraceniaceae), but this was probably an instance in which the insects were prey rather than herbivores.

In previously unpublished field work in Missouri, we have observed adults of *A. vittatum* feeding on flowers of *Symphyotrichum drummondii* (Lindl.) Nesom and leaves of *Verbesina alternifolia* (L.) Britt. ex Kearney (both Asteraceae). Also in Missouri, we have found adults on *Solidago petiolaris* Ait. (Asteraceae), *Geranium maculatum* (Geraniaceae), *Hydrangea arborescens* L. (Hydrangeaceae), *Lindera benzoin* (L.) Blume (Lauraceae), *Camassia scilloides* (Raf.) Cory (Liliaceae), and *Ligustrum vulgare* L. (Oleaceae), but actual feeding was not observed.

“*Diabrotica vittata*” has been reported from western states in association with *Citrullus vulgaris* Schrad. ex Eckl. & Zeyh. [*Citrullus lanatus*], cantaloupe [*Cucumis melo*], honeydew melon [*Cucumis melo*], *Cucumis sativus*, *Cucurbita pepo* (Cucurbitaceae); *Medicago sativa*, pinto bean [*Phaseolus vulgaris*], *Pisum* (Fabaceae); quince [*Cydonia oblonga* Mill.], *Pyrus malus* L. [*Malus sylvestris*], almond [*Prunus dulcis* (Mill.) D. A. Webb], pear [*Pyrus*] (Rosaceae); bell pepper [*Capsicum annuum* L.], chili [*Capsicum*], and tomato [*Lycopersicon esculentum* Mill.] (Solanaceae) (Anonymous, 1958e, 1958g, 1959k; Brisley, 1925; Chittenden, 1898a; Essig, 1913; Lintner, 1888; Townsend, 1895). Almost certainly, such reports were based on misidentified *Acalymma trivittatum* (Mannerheim).

In Mexico, *A. vittatum* has been recorded from *Cucumis melo*, *C. sativus*, *Cucurbita pepo* (Cucurbitaceae); *Glycine max*, *Phaseolus vulgaris*, *Pisum sativum* (Fabaceae); *Persea americana* Mill. (Lauraceae); “pasto pangola” [*Digitaria eriantha* Steud.] and *Zea mays* (Poaceae) (MacGregor & Gutiérrez, 1983). In Central America, this beetle species has been reported on *Daucus carota* L. (Apiaceae); *Brassica oleracea*, *B. pekinensis* [*B. rapa*] (Brassicaceae); *Allium cepa* L. (Liliaceae); *Hibiscus* (Malvaceae); and *Lycopersicon* (Solanaceae) (Ballou, 1936; Domínguez & Carrillo, 1976; Maes & Staines, 1991). In South America, “*Diabrotica vittata*” has been listed from *Musa x paradisiaca* L. (Musaceae) (Bechyné, 1997b). Bruner *et al.* (1975) reported the synonym *Diabrotica pallipes* (Olivier) from Cuba in association with *Cucurbita pepo* (Cucurbitaceae). However, as defined in the taxonomic revision of Munroe & Smith (1980), *A. vittatum* occurs only in roughly the eastern half of the United States and in nearby areas of Canada. Records from Latin America are undoubtedly based on misidentifications.

***Agasicles hygrophila* Selman & Vogt.** This introduced biological control agent is well known for its association with *Alternanthera philoxeroides* (Mart.) Griseb. (Amaranthaceae) (Andres & Bennett, 1975; Brigham, 1982; Buckingham *et al.*, 1983; Carr, 1988; Clausen, 1978; Coulson, 1977; Hawkes *et al.*, 1967; Jolivet, 2001, 2003; Jolivet & Verma, 2002; Julien & Griffiths, 1998; Maddox, 1968; Maddox & Resnik, 1968, 1969; Maddox *et al.*, 1971; Peck & Thomas, 1998; Riley *et al.*, 2002; Rogers, 1976; Selman & Vogt, 1971; Spencer & Coulson, 1976; Vail *et al.*, 2001; Vogt & Cordo, 1976; Vogt *et al.*, 1979; White, 1983, 1996b). It has also been reported from Klamathweed [*Hypericum perforatum* L.] (Clusiaceae) (Arnett, 1985), but this was certainly an error.

***Agelastica alni* (Linnaeus).** Although this Old World species has been reported from North America, it is likely not established here. Recorded plant associations, mostly from the Eastern Hemisphere, involve *Alnus glutinosa* (L.) Gaertn., *A. incana* (L.) Moench, *Betula pubescens* Ehrh., *Corylus avellana* L. (Betulaceae); *Euphorbia lathyris* L. (Euphorbiaceae); *Prunus mahaleb* L. (Rosaceae); *Populus*, *Salix alba* L., and *S. caprea* L. (Salicaceae) (Abdullah & Qureshi, 1968; Baur & Rank, 1996; Bechyné, 1956; Böving, 1929; Campobasso *et al.*, 1999; Cox, 1994; Downie & Arnett, 1996; Jolivet, 2003; Jolivet & Hawkeswood, 1995; Jolivet & Verma, 2002; Linnaeus, 1758; Lopatin, 1984; Mohr, 1966; Mölleken & Topp, 1997; Müller, 1764;

Leaf Beetles and Associated Plants

Olivier, 1808; Steinhausen, 1996; Vig, 1996, 1997; Vig & Rozner, 1996; Wilcox, 1965, 1979). Of the plants, species of *Alnus* are the most frequent hosts.

In Bermuda, this species has been intercepted in shipments of *Rosa* (Rosaceae) from Europe (Hilburn & Gordon, 1989). However, this plant is not a normal host.

***Agroiconota bivittata* (Say).** This species feeds on Convolvulaceae, having been recorded from *Calyptegia sepium* (L.) R. Br., *Convolvulus*, *Ipomoea batatas* (L.) Lam., and *I. pandurata* (L.) G. F. W. Mey. (Balsbaugh & Hays, 1972; Balsbaugh *et al.*, 1981; Barber, 1916; Beutenmüller, 1890a; Blatchley, 1910, 1924a; Borowiec, 1999; Brimley, 1938; Chittenden, 1912b; Clark, 2000; Crosby & Leonard, 1918; Dillon & Dillon, 1961; Douglass, 1929; Downie & Arnett, 1996; Hamilton, 1895; Jaques, 1951; Kirk, 1969, 1970; Kirk & Balsbaugh, 1975; Löding, 1945; Lugger, 1899; Maw, 1976a; Metcalf & Metcalf, 1993; Mohyuddin, 1969a; Noguera, 1988; Packard, 1877; Riley, 1870c; Riley & Enns, 1979; Sanderson, 1899; Sanderson & Peairs, 1931; Smith, 1900, 1910a, 1910b, 1938, 1943, 1950; Sorensen & Baker, 1983; Stearns, 1933; Walsh, 1866a, 1866c, 1867b; Walsh & Riley, 1869c, 1869e; Westcott, 1946; Wilcox, 1954, 1979). Ulke (1903) listed this beetle species in association with potato, but this was likely in reference to sweet potato [*I. batatas*] rather than Irish potato [*Solanum tuberosum* L.] (Solanaceae). In previously unpublished investigations in Texas, we have collected adults of this beetle species from *Convolvulus arvensis* L. and *C. equitans* Benth.

Beyond Convolvulaceae, *A. bivittata* has been reported from *Cirsium arvense* (L.) Scop., *Erigeron* (Asteraceae); radish [*Raphanus sativus* L.] (Brassicaceae); alfalfa [*Medicago sativa* L.], crimson clover [*Trifolium incarnatum* L.] (Fabaceae); broomsedge [*Andropogon virginicus* L.], sorghum [*Sorghum*] (Poaceae); apple [*Malus sylvestris* P. Mill.], peach [*Prunus persica* (L.) Batsch] (Rosaceae); mullein [*Verbascum*] (Scrophulariaceae); and eggplant [*Solanum melongena* L.] (Solanaceae) (Blatchley, 1910; Kirk, 1969, 1970; Maw, 1976a; McQueen, 1963d; Riley, 1870c; Rouse & Medvedev, 1972). However, these associations were almost certainly adventitious.

Hutson's (1957a) report of "*Deloyala vittata*" may have been based on *Agroiconota bivittata*. If so, the recorded association with tomato [*Lycopersicon esculentum* Mill.] (Solanaceae) was probably incidental.

***Altica aeneola* Blatchley.** Gentner (1928a) reported collecting specimens by sweeping marsh grass [*Spartina*] (Poaceae). However, sweeping records, without supporting evidence, should not necessarily be interpreted as host associations.

***Altica aeruginosa* LeConte.** Lavigne (1976) reported this species from blossoms of *Gutierrezia sarothrae* (Pursh) N. L. Britt. & Rusby (Asteraceae). Kumar *et al.* (1976) reported "*Altica aeruginosa* LeConte or near" from blossoms of this same plant. In previously unpublished investigations, we have associated California populations of *A. aeruginosa* with *Lythrum hyssopifolia* L. (Lythraceae) and *Ludwigia peltoides* (H. B. K.) Raven (Onagraceae).

***Altica ambiens* LeConte.** Hosts are species of *Alnus* (Betulaceae), including *A. crispa* (Ait.) Pursh, *A. incana* (L.) Moench, *A. rhombifolia* Nutt., *A. rubra* Bong., and *A. serrulata* (Ait.) Willd. (Anderson, 1960; Anonymous, 1985; Baker, 1972; Barstow & Gittins, 1971; Blake, 1936a, 1952; Brown, 1938; Carr, 1988; Cranshaw *et al.*, 2000; Dearborn & Donahue, 1993; Downie & Arnett, 1996; Furniss & Barr, 1975; Furniss & Carolin, 1977; Hatch, 1971; Hicks, 1955a; Ives & Wong, 1988; Johnson & Lyon, 1991; Keen, 1952; Lawson, 1991; LeSage, 1990b, 1995; Lindroth, 1971; Lintner, 1888; MacAloney, 1950; Packard, 1887, 1890; Pirone, 1970; Proctor, 1938, 1946; Raizenne, 1975; Slingerland, 1898; White, 1983; Wilcox, 1979; Wilson *et al.*, 1982).

Beyond the above-mentioned records, *A. ambiens* has been reported from *Cirsium* (Asteraceae); beet [*Beta vulgaris* L.] (Chenopodiaceae); *Hypericum perforatum* L. (Clusiaceae); dogwood [*Cornus*] (Cornaceae); *Juniperus* (Cupressaceae); *Phaseolus*, *Trifolium* (Fabaceae); *Quercus dumosa* Nutt. (Fagaceae); *Hamamelis* (Hamamelidaceae); fir [*Abies*], spruce [*Picea*], *Pinus ponderosa* Dougl. ex Lawson & C. Lawson, *P. strobus* L. (Pinaceae); corn [*Zea mays* L.] (Poaceae); *Rumex* (Polygonaceae); *Ceanothus cuneatus* (Hook.) Nutt., *C. integerrimus* Hook. & Arn. (Rhamnaceae); *Prunus*, *Pyrus*, rose [*Rosa*], *Rubus occidentalis* L., *Sorbus sitchensis* M. Roem. (Rosaceae); longleaf cottonwood [likely *Populus angustifolia* James ex Long], *Salix sessilifolia* var. *hindsiana* (Benth.) Andersson (Salicaceae); *Ulmus* (Ulmaceae); and *Vitis riparia* Michx. (Vitaceae) (Anderson, 1960; Anonymous, 1959r, 1961g, 1961s, 1969p, 1970c; Barstow & Gittins, 1971; Bechtel *et al.*, 1960; Blake, 1936a; Brannon, 1959; Dearborn & Donahue, 1993; Denton, 1958; Evenden, 1953; Flake *et al.*, 1972; Furniss, 1972; Furniss & Krebill, 1972; Gittins, 1959; Keen, 1952; LeSage, 1995; Stranahan, 1959, 1968; Wilson *et al.*, 1982). However, such associations were likely either incidental or based on beetle species other than true *A. ambiens*.

***Altica betulae* Schaeffer.** This species has been associated with *Betula* (Betulaceae) (Downie & Arnett, 1996; MacAloney, 1950; Schaeffer, 1924, 1928a; Wilcox, 1979).

***Altica bimarginata* Say.** Hosts are normally species of *Salix* (Salicaceae), including *S. amygdaloides* Anderss., *S. argophylla* Nutt., *S. cordata* Michx., *S. exigua* Nutt., and *S. rostrata* Richards. (Barr & Gittins,

1955; Barstow & Gittins, 1971, 1973; Beller & Hatch, 1932; Blake, 1936a; Brues, 1924; Carr, 1920, 1988; DeSwarte & Balsbaugh, 1973; Essig, 1915b, 1958; Fall, 1920; Felt, 1907, 1930; Furniss & Barr, 1975; Furniss & Carolin, 1977; Gibson, 1913; Hatch, 1971; Herrick, 1935; Ives & Wong, 1988; Keen, 1938; Kirk & Balsbaugh, 1975; LeSage, 1995; Lugger, 1899; McDaniel, 1933; Raizenne, 1975; Rickelmann & Bach, 1991; Russell, 1968; Schow & Manis, 1962; Stirrett, 1924; Westcott, 1946; Woods, 1917, 1918b). In an interesting report, Ting (1936) recorded larvae boring into a semi-rotten limb of willow [*Salix*], and the insects transforming to pupae and later adults within this limb.

Additionally, *A. bimarginata* has been reported in association with *Populus balsamifera* L., *P. deltoides* Marshall, and *P. tremuloides* Michx. (Salicaceae) (Beller & Hatch, 1932; Brues, 1924; Carr, 1988; Essig, 1915b, 1958; Felt, 1930; Gibson, 1913; Keen, 1938; LeSage, 1995; McDaniel, 1933; Proctor, 1938, 1946; Stirrett, 1924; Westcott, 1946; Woods, 1917, 1918b). However, according to Brown (1938), some of the reported associations with *P. balsamifera* were probably based on populations of *Altica prasina populi* Brown.

Barstow & Gittins (1971) reported adults feeding in early spring on leaves of a plant identified as probably *Rosa woodsii* Lindl. (Rosaceae). However, they stated that the preferred host in the area, *Salix exigua*, was not yet available at that time of year. They also reported that adults occasionally feed on *Oenothera* (Onagraceae), but again they reiterated that the normal host is *S. exigua*. Ives & Wong (1988), possibly based on the work of Barstow & Gittins, indicated that adults feed on wild rose [*Rosa*] in early spring.

Barstow & Gittins (1971) found overwintering adults under a variety of plants, including *Cichorium intybus* L. (Asteraceae), *Gaura parviflora* Douglas ex Lehm. [*G. mollis* James] (Onagraceae), *Agropyron* (Poaceae), *Verbascum blattaria* L. (Scrophulariaceae), and *Verbena bracteata* Lag. & Rodr. (Verbenaceae). However, they did not suspect any of these to be food plants. Additionally, pupae have been reported from under moss [Bryophyta] (Felt, 1907), but this also should not be considered a food plant.

This beetle species has also been reported from *Artemisia californica* Less., *Aster*, goldenrod [*Solidago*] (Asteraceae); *Alnus incana* (L.) Moench, *A. rubra* Bong., *A. serrulata* (Ait.) Willd., *A. tenuifolia* Nutt, *Betula glandulosa* Michx., *B. occidentalis* Hook. (Betulaceae); *Cornus* (Cornaceae); *Arctostaphylos patula* E. L. Greene, huckleberry [*Gaylussacia*], azalea [*Rhododendron*] (Ericaceae); *Ribes grossularia* L. [*R. reclinatum* L.] (Grossulariaceae); *Pinus* (Pinaceae); *Polygonum aviculare* L., *P. hydropiper* L. (Polygonaceae); *Purshia tridentata* (Pursh) DC. (Rosaceae); *Ulmus americana* L. (Ulmaceae); and *Vitis* (Vitaceae) (Abdullah & Qureshi, 1969; Andrews, 1923; Anonymous, 1966; Barstow & Gittins, 1971; Beller & Hatch, 1932; Beutenmüller, 1890a; Blake, 1936a; Blatchley, 1910; Britton, 1911; Brues, 1924; Carr, 1988; Dearborn & Donahue, 1993; Doane *et al.*, 1936; Essig, 1915b, 1958; Fall, 1901, 1920; Felt, 1907, 1930; Furniss, 1972; Gibson, 1913; Herrick, 1935; Horn, 1889; Johannsen, 1912; Keen, 1938; LeSage, 1995; Lintner, 1888; McDaniel, 1933; Raizenne, 1975; Slingerland, 1898; Stirrett, 1924; Sweet, 1930; Valenti *et al.*, 1997; Van Dyke, 1925b; Westcott, 1946; Woods, 1917, 1918b; Young, 1935). Even so, these associations were probably incidental, or they were based on misidentification.

Woods (1917) conducted experiments in which “*Altica bimarginata*” fed on *Alnus incana*; *Ribes grossularia* [*R. reclinatum*] (Grossulariaceae); *Populus balsamifera*, *P. tremuloides*, *Salix cordata*, “*Salix* sp. near *nigra* Marsh.,” *S. rostrata* (Salicaceae); and *Ulmus americana* (Ulmaceae). However, the insects, none of which was field-collected from *Salix*, were probably misidentified.

***Altica blanchardi* Fall.** This species has been reported from *Melilotus* (Fabaceae) and *Polygonella* (Polygonaceae) (Wilcox, 1979).

***Altica brisleyi* Gentner.** This species has been collected from *Gaura parviflora* Douglas ex Lehm. [*G. mollis* James] (Onagraceae) (Gentner, 1928a; Leech & Green, 1955). Knowlton (1955a) recorded it perforating leaves of a member of the evening primrose family [Onagraceae].

***Altica browni* Mohamedsaid.** The host of this species is *Potentilla anserina* L. (Rosaceae) (Brown, 1946; Downie & Arnett, 1996; Mohamedsaid, 1984; Wilcox, 1979).

***Altica canadensis* Gentner.** This species has been associated with *Rosa* (Rosaceae) (Gentner, 1926a; Wilcox, 1979).

***Altica carduorum* Guérin-Ménéville.** This species, intentionally introduced into North America but not thought to be established, feeds naturally on *Cirsium arvense* (L.) Scop., and, under experimental conditions, it has at least nibbled on *Arctium minus* (Hill) Bernh., *Carduus acanthoides* L., *C. crispus* L., *C. defloratus* L., *C. nutans* L., *C. personata* (L.) Jacq., *C. pycnocephalus* L., *C. tenuiflorus* W. Curt., *Carthamus*, *Centaurea*, *Chrysanthemum*, *Cirsium acaule* (L.) Scop., *C. flodmanii* (Rydb.) Arthur, *C. oleraceum* (L.) Scop., *C. palustre* (L.) Scop., *C. pumilum* (Nutt.) Spreng., *C. rivulare* (Jacq.) All., *C. vulgare* (Savi) Tenn., *Cnicus benedictus* L., *Cynara*, *Echinops*, *Helianthus*, *Lactuca*, *Onopordum acanthium* L., *Silybum marianum* (L.) Gaertn., and *Xeranthemum annuum* L. (Asteraceae) (Baker *et al.*, 1972; Balsbaugh, 1988; Batra *et al.*, 1981; Campobasso *et al.*, 1999; Clausen, 1978; Doguet, 1994; Furth, 1981; Gassmann, 1995; Harris, 1964; Hoebeke & Wheeler, 2003; Jolivet, 2001; Jolivet & Petitpierre, 1980; Julien & Griffiths, 1998; Laroche *et al.*, 1996; LeSage, 1995;

Leaf Beetles and Associated Plants

Lopatin, 1984; Maw, 1976a; Mohr, 1966; Pemberton & Hoover, 1980; Peschken, 1977; Peschken *et al.*, 1970; Petitpierre, 1999; Schaber, 1980; Schaber *et al.*, 1975; Swan & Papp, 1972; White, 1996b; Wilcox, 1979; Zwölfer, 1965, 1969; Zwölfer & Eichhorn, 1966). Additionally, material in Europe has been collected in nature from *Carduus pycnocephalus*, *C. tenuiflorus*, *Cirsium palustre*, and *C. vulgare*, although such occurrences are much less frequent than associations with *Cirsium arvense* (Batra *et al.*, 1981; Campobasso *et al.*, 1999; Doguet, 1994; Goeden, 1974; Harris, 1964; Pemberton & Hoover, 1980; Petitpierre, 1999; Steinhausen, 1996).

Beyond Asteraceae, larvae have fed occasionally on flax [*Linum*] (Linaceae) under experimental conditions, but they did not develop (Batra *et al.*, 1981). This plant is almost certainly not a host in nature.

***Altica carinata* Germar.** This species, sometimes cited as the synonym *A. exapta* Say, has been reported from *Bebbia juncea* (Benth.) E. L. Greene, *Erechtites hieraciifolia* (L.) Raf. ex DC. (Asteraceae); desert primrose [possibly *Camissonia brevipes* (A. Gray) P. H. Raven], *Fuchsia*, *Oenothera biennis* L. (Onagraceae); *Polygonum perfoliatum* L. (Polygonaceae); *Crataegus* (Rosaceae); *Ulmus americana* L. (Ulmaceae); and *Vitis arizonica* Englem. (Vitaceae) (Abdullah & Qureshi, 1969; Anonymous, 1961t, 1985; Baker, 1972; Chittenden, 1895a; Dickerson & Weiss, 1920; Essig, 1915b; Fall, 1901, 1920; Goeden & Ricker, 1989; Hoffman, 1942; Horn, 1889; Johannsen & Patch, 1911; MacAloney, 1950; Moore, 1937; Packard, 1890; Riley & Enns, 1979; Riley & Howard, 1890b, 1893; Schaeffer, 1928a; Schwarz, 1893, 1899; Stirrett, 1924; Wellhouse, 1922; Wheeler & Mengel, 1984; Wilcox, 1954). Beyond this, Webster (1881) included *A. carinata* in a list of chrysomelids observed on either *Salix discolor* Muhl. or *S. petiolaris* J. E. Sm. (Salicaceae). Goeden & Ricker (1974a) indicated that “*Altica carinata* Germar or nr.” was found, although rarely, on leaves of *Ambrosia acanthicarpa* Hook. (Asteraceae).

Malkin (1941) recorded *A. carinata* “hibernating in a great mass” under bark of willow [*Salix*] (Salicaceae). However, this should not necessarily be interpreted as a food plant association.

“*Altica carinata*” has been reported from California in association with *Artemisia californica* Less. (Asteraceae), *Ulmus* (Ulmaceae), and *Vitis* (Vitaceae) (Essig, 1913; Sweet, 1930). However, California is far beyond the normal range of these beetles, and these associations were probably based on misidentified insects. In fact, some of the other above-mentioned associations may have been based on *Altica ulmi* Woods or other similar species. On the other hand, some beetles reported as *A. ulmi* may have actually been *A. carinata*. Accordingly, see our discussion of *A. ulmi* for additional associations that may have been based on populations of *A. carinata*.

Records maintained by the USDA-ARS Grassland, Soil and Water Research Laboratory state that adults of *A. carinata* have been “swept from foliage or feeding on leaves” of *Baccharis neglecta* Britt. and *B. sarothroides* A. Gray (Asteraceae) (Thomas O. Robbins, pers. comm.). However, these observations were made in Arizona and Texas, beyond the recognized range of *A. carinata*, and they may have been based on misidentification of a similar beetle species.

***Altica caurina* Blake.** The host is reported to be *Potentilla fruticosa* L. (Rosaceae) (LeSage, 1990b, 1995).

***Altica chalybea* Illiger.** These insects are well known for their host relationship with species of *Vitis* (Vitaceae), having been reported from *V. bicolor* Raf., *V. labrusca* L., *V. rotundifolia* Michx., *V. vinifera* L., and *V. vulpina* L. (Abdullah & Qureshi, 1969; Anonymous, 1964c; Balsbaugh & Hays, 1972; Beutenmüller, 1890a; Blatchley, 1910, 1924a; Borror *et al.*, 1989; Bruner, 1895; Clark, 2000; Comstock, 1880, 1925; Comstock *et al.*, 1931; Cranshaw, 1992; Davidson & Lyon, 1987; Dearborn & Donahue, 1993; Dillon & Dillon, 1961; Downie & Arnett, 1996; Dozier, 1918, 1920; Duckett, 1920; Edwards, 1949; Fall, 1920; Felt, 1902a, 1902c, 1903; Fitch, 1859b; Furth, 1981; Hamilton, 1895; Harris, 1841, 1863; Gentry, 1954; Gibson, 1913, 1914; Gossard, 1911; Harrington, 1883; Isely, 1920; Jaques, 1951; Johnson & Hammar, 1910; Kirk, 1970; Lawson, 1991; Lintner, 1888; Lowe, 1898b; Lugger, 1899; Marlatt, 1896, 1898; McGiffin & Neunzig, 1985; McGrew & Still, 1977; McQueen, 1964a; Metcalf & Metcalf, 1993; Mills & Dewey, 1934; Mills & LaPlante, 1952; Packard, 1888; Papp, 1984; Peck & Thomas, 1998; Peterson, 1960; Quaintance & Shear, 1907; Riley, 1870b, 1871a; Riley & Enns, 1979; Riley & Fuller, 1880d; Riley & Howard, 1889a; Sanderson & Peairs, 1931; Schwarz, 1893; Slingerland, 1898; Slingerland & Crosby, 1915; Smith, 1900, 1910a; Stear, 1918; Still & Rings, 1973; Stirrett, 1924; Swain, 1948; Swan & Papp, 1972; Thomas, 1834; Ulke, 1903; Walsh & Riley, 1868a; Westcott, 1946; Whitcomb & Guba, 1943; White, 1983; Wilcox, 1954, 1979; Zappe, 1929). In previously unpublished investigations, we have collected adults from *V. candicans* Engel. ex A. Gray in east-central Texas.

Additionally, *A. chalybea* has been associated with *Parthenocissus quinquefolia* (L.) Planch. (Vitaceae) (Clark, 2000; Cranshaw, 1992; Davidson & Lyon, 1987; Dillon & Dillon, 1961; Duckett, 1920; Gibson, 1913, 1928; Isely, 1920; Lugger, 1899; McGiffin & Neunzig, 1985; Metcalf & Metcalf, 1993; Peck & Thomas, 1998; Peterson, 1960; Riley & Enns, 1979; Slingerland, 1898; Slingerland & Crosby, 1915; Stirrett, 1924; Westcott, 1946; White, 1983; Zappe, 1929). In previously unpublished investigations, we have indeed found

adults mating on *P. quinquefolia* in spring, before the plants have broken dormancy. Shortly afterwards, we have seen females chewing the ends off still unopened buds and ovipositing in small cavities that are produced under the bud scales. As many as three eggs may be deposited in a single scale. When the plant breaks dormancy and begins to grow, the eggs hatch, and the larvae immediately begin feeding on the developing leaves. Where this occurs, we have observed much leaf damage, as well as small, feeding larvae. The insects continue feeding at least until leaf maturation.

Beyond Vitaceae, *A. chalybea* has been reported from poison ivy [*Toxicodendron*] (Anacardiaceae); *Asclepias syriaca* L. (Asclepiadaceae); *Alnus vulgaris* Hill [*A. glutinosa* (L.) P. Gaertn.], *A. serrulata* (Ait.) Willd., *Carpinus caroliniana* Walt. (Betulaceae); *Cercis canadensis* L., velvetbean [*Mucuna*] (Fabaceae); beech [*Fagus grandifolia* Ehrh.] (Fagaceae); wax myrtle [*Myrica*] (Myricaceae); evening-primrose [*Oenothera*] (Onagraceae); *Pyrus cydonia* L. [*Cydonia oblonga* Mill.], *Pyrus malus* L. [*Malus sylvestris* P. Mill.], *Prunus domestica* L., *P. persica* (L.) Batsch, pear [*Pyrus*] (Rosaceae); citrus [*Citrus*] (Rutaceae); willow [*Salix*] (Salicaceae); and *Ulmus* (Ulmaceae) (Andrews, 1923; Anonymous, 1966h; Blatchley, 1910, 1924a; Cranshaw, 1992; Dailey *et al.*, 1978; Davidson & Lyon, 1987; Dillon & Dillon, 1961; Dozier, 1918, 1920; Duckett, 1920; Felt, 1907; Hoffman, 1942; Jaques, 1951; Lee, 1949; Lintner, 1888; Lugger, 1899; Marlatt, 1896, 1898; McQueen, 1963c; Metcalf & Metcalf, 1993; Packard, 1890; Perkins, 1890; Peterson, 1960; Quaintance & Shear, 1907; Riley, 1870b, 1871a; Schwarz, 1893; Slingerland, 1898; Stear, 1918; Stirrett, 1924; Westcott, 1946; White, 1983). As noted by Slingerland (1898), the association with *Alnus serrulata* was probably based on beetles other than true *A. chalybea*. At least most of the other non-vitaceous associations were surely either incidental, perhaps reported due the tendency of *Vitis* to climb on and twine around other plants, or they were based on misidentified beetles.

Blatchley (1924a) and Dozier (1918, 1920) reported that *A. chalybea* hibernates in Spanish moss [*Tillandsia usneoides* (L.) L.] (Bromeliaceae), but they did not suggest that this was a food plant. Similarly, Blatchley (1896) recorded two overwintering beetles from beneath the bark of oak [*Quercus*] (Fagaceae), but this certainly did not constitute a food plant.

Gibson (1914) reported *A. chalybea* from Japanese honeysuckle [*Lonicera japonica* Thunb. ex Murray] (Caprifoliaceae); bean [likely *Phaseolus vulgaris* L.] (Fabaceae); marsh mallow [*Althaea officinalis* L.], rose mallow [*Hibiscus*] (Malvaceae); potato [*Solanum tuberosum* L.] (Solanaceae); and grape [*Vitis*] (Vitaceae). However, this was clearly based on a transcription error, these associations rightly pertaining to *Systema frontalis* (Fabricius). This error becomes apparent after comparing the treatment of Gibson (1913).

***Altica corni* Woods.** This species feeds on *Cornus* (Cornaceae), having been reported from *C. pubescens* Nutt., *C. racemosa* Lam., and *C. stolonifera* Michx. [*C. sericea* L.] (Downie & Arnett, 1996; Abdullah & Qureshi, 1969; Clark, 2000; Dearborn & Donahue, 1993; Gentner, 1926a; Hatch, 1971; Kirk & Balsbaugh, 1975; Lawson, 1991; LeSage & Denis, 1999; LeSage *et al.*, 1994; Loan, 1963; Raizenne, 1975; Stirrett, 1924; Wilcox, 1979; Woods, 1918a). LeSage & Denis (1999) noted that *C. stolonifera* [*C. sericea*] is the preferred host.

LeSage & Denis (1999) reported specimens labeled from *Solidago* (Asteraceae), *Alnus* (Betulaceae), *Barbarea vulgaris* R. Br. (Brassicaceae), *Equisetum* (Equisetaceae), *Euphorbia* (Euphorbiaceae), *Rumex* (Polygonaceae), *Rubus* (Rosaceae), and *Salix* (Salicaceae). However, they rightly considered these records to be based on incidental occurrences. Beetles have also been collected from *Vicia cracca* L. (Fabaceae); fir [*Abies*] and spruce [*Picea*] (Pinaceae) (Dearborn & Donahue, 1993; Loan, 1963). These occurrences were surely also adventitious.

Under experimental conditions, *A. corni* has fed on *Alnus incana* (L.) Moench (Betulaceae); *Cornus canadensis* L., *C. paniculata* L'Her. [*C. racemosa*], *C. stolonifera* [*C. sericea*] (Cornaceae); *Phaseolus* (Fabaceae); *Chamerion angustifolium* (L.) Holub, *Epilobium palustre* L., *Oenothera biennis* L. (Onagraceae); and *Rosa ywara* Carr. (Rosaceae) (Woods, 1918a). However, the non-*Cornus* species are probably not significant food plants under natural conditions.

***Altica cuprascens* Blatchley.** Andrews (1923) reported one specimen collected by beating paper birch [*Betula papyrifera* Marsh.] (Betulaceae) and another by beating willow [*Salix*] (Salicaceae). Beyond this, it has been speculated that this species occurs on *Populus* (Salicaceae) (Blatchley, 1910; Clark, 2000; Duckett, 1920).

***Altica foliaceae* LeConte.** This species has been reported in association with *Artemisia*, *Gutierrezia sarothrae* (Pursh) N. L. Britt. & Rusby, *Parthenium argentatum* A. Gray (Asteraceae); *Cakile edentula* (Bigel.) Hook., radish [*Raphanus sativus* L.] (Brassicaceae); *Beta vulgaris* L., greasewood [*Sarcobatus vermiculatus* (Hook.) J. Torr.] (Chenopodiaceae); *Cucurbita perennis* A. Gray [*C. foetidissima* Kunth in H. B. K.] (Cucurbitaceae); *Euphorbia marginata* Pursh (Euphorbiaceae); cowpea [*Vigna unguiculata* Clav.] (Fabaceae); cotton [*Gossypium*] (Malvaceae); *Chamerion angustifolium* (L.) Holub, *Gaura parviflora* Douglas ex Lehm. [*G. mollis* James], *G. parvifolia* Torr., *Oenothera albicaulis* Pursh, *O. biennis* L., *O. parviflora* L. (Onagraceae);

Bouteloua eriopoda (J. Torr.) J. Torr., sorghum [*Sorghum*], wheat [*Triticum*], corn [*Zea mays* L.] (Poaceae); *Crataegus*, *Fragaria chiloensis* (L.) Duchn., *Pyrus malus* L. [*Malus sylvestris* P. Mill.], crabapple [*Malus*], wild cherry tree [*Prunus*], pear [*Pyrus*], *Rubus* (Rosaceae); and *Vitis rotundifolia* Michx. (Vitaceae) (Abdullah & Qureshi, 1969; Andrews, 1923; Anonymous, 1959m, 1960c, 1960p; Balsbaugh & Hays, 1972; Balsbaugh *et al.*, 1967; Beutenmüller, 1890a; Bruner, 1895; Carr, 1988; Cassidy, 1889; Clark, 2000; Cockerell, 1888, 1900; Cranshaw, 1992; Cranshaw *et al.*, 2000; Douglass, 1929; Downie & Arnett, 1996; Essig, 1958; Fall, 1920; Folsom, 1936b; Foster *et al.*, 1981; Gentner, 1926a; Horn, 1889; Jackman, 1979g, 1979k; Kirk & Balsbaugh, 1975; Lavigne, 1976; Lindroth, 1971; Lugger, 1899; McGiffin & Neunzig, 1985; Murtfeldt, 1888; Pallister, 1953; Popenoe, 1877, 1888; Popenoe & Marlatt, 1889; Quaintance & Siegler, 1922; Riley, 1887; Riley & Enns, 1979; Riley & Howard, 1888c, 1891e; Rouse & Medvedev, 1972; Schwarz, 1893; Slingerland & Crosby, 1915; Stirrett, 1924; Stone & Fries, 1986; Townsend, 1892; Vogt *et al.*, 1979; Watts, 1963; Westcott, 1946; Wickham, 1902; Wilcox, 1954, 1979). Beyond this, Stirrett's (1924) listing of "*Altica fabacea* Lec." from *Cucurbita* (Cucurbitaceae) may have been based on specimens of *A. foliaceae*. Preferred hosts are likely limited to the Onagraceae.

Cockerell (1900) stated that a species near *A. foliaceae* feeds on *Gaura*. Similarly, Goeden (1971a) included "*Altica foliaceae* LeC. or near" in a list of insects collected from *Solanum elaeagnifolium* Cav. (Solanaceae), but this association was likely incidental.

In previously unpublished investigations in Texas, we have collected *A. foliaceae* from *Calylophus berlandieri* ssp. *berlandieri* Spach, *Oenothera engelmannii* (Small) Munz, and *O. rhombipetala* Nutt. (Onagraceae).

***Altica fuscoaenea* Melsheimer.** Hosts are reported to be *Oenothera biennis* L. and *O. rhombipetala* Nutt. (Onagraceae) (Blatchley, 1910; Dickerson & Weiss, 1920; Dillon & Dillon, 1961; Downie & Arnett, 1996; Duckett, 1920; Schwarz, 1890; Smith, 1900, 1910a; Stirrett, 1924; Ulke, 1903; Vestal, 1913; Weiss, 1922b). However, as noted by Balsbaugh & Hays (1972), many specimens identified as *A. fuscoaenea* Melsheimer are actually *A. knabi* Blatchley.

***Altica gloriosa* Blatchley.** This species is reported to occur on *Rosa* (Rosaceae) (Clark, 2000; Downie & Arnett, 1996; Schaeffer, 1928a; Wilcox, 1954, 1979).

***Altica guatemalensis* Jacoby.** Hosts are species of *Alnus* (Betulaceae), including *A. oblongifolia* J. Torr. (Blake, 1936a; LeSage, 1995). Material has also been collected from *Ulmus* (Ulmaceae), but LeSage (1995) discounted this association.

***Altica heucherae* Fall.** The host is reported to be *Heuchera americana* L. (Saxifragaceae) (Balsbaugh & Hays, 1972; Fall, 1920; Riley & Enns, 1979; Wilcox, 1979). In previously unpublished investigations, we have associated Missouri populations with both *H. americana* and *H. richardsonii* R. Br.

***Altica ignita* Illiger.** This species has been reported in association with species of *Prunus* (Rosaceae), including *P. americana* Marsh. and *P. persica* (L.) Batsch (Balsbaugh & Hays, 1972; Carr, 1988; Downie & Arnett, 1996; Essig, 1915b; Gibson, 1913; Löding, 1945; Schaeffer, 1928a, 1932b; Wilcox, 1979). It has also been recorded in association with *Fragaria* (Rosaceae) (Abdullah & Qureshi, 1969; Anonymous, 1969e; Blatchley, 1910; Brooks & Kelsheimer, 1961; Carr, 1988; Duckett, 1920; Essig, 1915b, 1958; Essig & Hoskins, 1944; Gibson, 1913; Horne & Essig, 1921; Metcalf & Metcalf, 1993; Pallister, 1953; Papp, 1984; Riley & Howard, 1890a, 1893; Schwarz, 1893; Slingerland & Crosby, 1915; Smith, 1900, 1910a; Stear, 1918; Swan & Papp, 1972; Webster, 1890c, 1891; Westcott, 1946; Woods, 1918a). Additionally, it has been reported from rose [*Rosa*] (Rosaceae) and elm [*Ulmus*] (Ulmaceae) (Duckett, 1920; Gibson, 1913; Pallister, 1953).

Blatchley (1910) stated that this beetle species occurred by the thousands on *Ludwigia palustris* (L.) Ell. (Onagraceae) and that it was also said to attack strawberry [*Fragaria*] and rose [*Rosa*] (Rosaceae). However, later (Blatchley, 1921), he noted that this report was at least partly based on misidentified specimens of *Altica litigata* Fall and other species. Pallister's (1953) report from *L. palustris* was simply based on Blatchley's record.

Other workers have reported *A. ignita* from *Erechtites hieraciifolia* (L.) Raf. ex DC., lettuce [*Lactuca*], goldenrod [*Solidago*] (Asteraceae); cabbage [*Brassica oleracea* L.] (Brassicaceae); sugar beet [*Beta vulgaris* L.] (Chenopodiaceae); *Kalmia glauca* Ait., *K. latifolia* L., rosebay rhododendron [*Rhododendron maximum* L.], pinxter flower [*Rhododendron periclymenoides* (Michx.) Shinnars] (Ericaceae); *Desmodium* (Fabaceae); gladiolus [*Gladiolus*] (Iridaceae); *Lagerstroemia indica* L. (Lythraceae); lilac [*Syringa*] (Oleaceae); *Chamerion angustifolium* (L.) Holub, *Fuchsia*, Little Beauty fuchsia [*Fuchsia*], *Gaura sinuata* Nutt. ex Ser., *Ludwigia palustris*, *Oenothera biennis* L. (Onagraceae); wheat [*Triticum*] (Poaceae); *Salix discolor* Muhl., *S. petiolaris* J. E. Sm. (Salicaceae); *Parthenocissus quinquefolia* (L.) Planch. and *Vitis* (Vitaceae) (Andrews, 1923; Carr, 1988; Dickerson & Weiss, 1920; Dillon & Dillon, 1961; Douglass, 1929; Dozier, 1918; Duckett, 1920; Essig, 1915b, 1958; Gibson, 1913; Hamilton, 1895; Johnson & Lyon, 1991; Kelsheimer, 1956; Lugger, 1899; Metcalf & Metcalf, 1993; Osborn, 1891; Papp, 1984; Riley & Howard, 1889a, 1893; Rouse & Medvedev, 1972; Schwarz, 1893; Slingerland & Crosby, 1915; Smith, 1900, 1910a; Swan & Papp, 1972; Valley, 1985;

Van Horn, 1935; Webster, 1881, 1890c; Westcott, 1946). However, some these associations may also have been based on misidentified beetles, and some were probably adventitious. Gibson (1913) recorded damage to cabbage [*Brassica oleracea*] and turnip [*Brassica rapa* L.] (Brassicaceae) by beetles “closely allied” to *A. ignita*.

Hoffman (1942) reported that adults hibernate under bark of elm [*Ulmus*] (Ulmaceae). However, he did not suggest that this was a food plant. Similarly, Rosenfeld (1911) recorded an overwintering beetle from *Tillandsia usneoides* (L.) L. (Bromeliaceae).

***Altica kalmiae* (Melsheimer).** This species has been associated with *Kalmia angustifolia* L., *K. glauca* Ait., *K. latifolia* L., and *Rhododendron maximum* L. (Ericaceae) (Brimley, 1938; Clark, 2000; Downie & Arnett, 1996; Fall, 1920; Melsheimer, 1847; Schaeffer, 1928a, 1932b; Smith, 1910a; Wilcox, 1979). Additionally, Lee (1949) reported one specimen found in a survey of insects associated with *Cercis canadensis* L. (Fabaceae), but this occurrence was surely incidental.

***Altica knabi* Blatchley.** Both larvae and adults are associated with *Oenothera biennis* L. (Onagraceae) (Balsbaugh & Hays, 1972; Clark, 2000; Fall, 1920; Riley & Enns, 1979; Wilcox, 1979).

***Altica lazulina* LeConte.** This species has been reported from *Epilobium adenocaulon* Haussk. and *Gaura coccinea* Pursh (Onagraceae) (Carr, 1988; Lavigne, 1976). It has also been recorded from grass [Poaceae] (Whelan, 1936), but this occurrence was probably adventitious.

***Altica litigata* Fall.** This species is normally associated with Onagraceae, having been recorded from *Fuchsia*, *Gaura sinuata* Nutt. ex Ser., *Ludwigia palustris* (L.) Ell., *L. polycarpa* Short & Peter, and *Oenothera biennis* L. (Balsbaugh & Hays, 1972; Blatchley, 1921, 1923, 1924a; Clark, 2000; Downie & Arnett, 1996; Fall, 1920; Kirk, 1970; Peck & Thomas, 1998; Riley & Enns, 1979; Rouse & Medvedev, 1972; Stirrett, 1924; Vogt *et al.*, 1979; Wilcox, 1954, 1979). In previously unpublished field work in Missouri, we have found many adults of *A. litigata*, plus several larvae presumably belonging to this species, on leaves of *Ludwigia peploides* (Kunth) Raven. Additionally, we have identified adults that were collected by Thomas O. Robbins from *Gaura filiformis* Small [*G. longiflora* Spach] in central Texas.

Apart from Onagraceae, *A. litigata* has been recorded from *Vinca* (Apocynaceae); *Asclepias syriaca* L. (Asclepiadaceae); *Heterotheca subaxillaris* (Lam.) N. L. Britt. & Rusby, lettuce [*Lactuca*] (Asteraceae); *Brassica napus* L., turnip [*B. rapa* L.] (Brassicaceae); morning-glory [likely *Calystegia*, *Convolvulus*, or *Ipomoea*], sweet potato [*Ipomoea batatas* (L.) Lam.] (Convolvulaceae); crotalaria [*Crotalaria*], soybean [*Glycine max* (L.) Merr.], cowpea [*Vigna unguiculata* Clav.] (Fabaceae); *Cuphea*, *Lagerstroemia indica* L., *Lythrum* (Lythraceae); cotton [*Gossypium*] (Malvaceae); wheat [*Triticum*] (Poaceae); dock [*Rumex*] (Polygonaceae); *Fragaria chiloensis* (L.) Duchn., *Rosa* (Rosaceae); *Citrus sinensis* (L.) Osbeck (Rutaceae); and tomato [*Lycopersicon esculentum* Mill.] (Solanaceae) (Bass & Keen, 1963; Dailey *et al.*, 1978; Fall, 1920; Griffith, 1965; Kirk, 1969, 1970; Levan *et al.*, 1963; Löding, 1945; Musgrove, 1965; Riley & Enns, 1979; Rouse & Medvedev, 1972; Stirrett, 1924; Wilcox, 1954, 1979). Beyond these reports, Moreno & Bibby (1943) recorded “*Altica litigata* (Fall.) (?)” from *Gossypium hirsutum* L. (Malvaceae).

Some of these non-onagraceous occurrences were probably incidental, or they were based on misidentification. However, in previously unpublished investigations in Texas, we have found adults of *A. litigata* defoliating *Lagerstroemia indica* (Lythraceae). In West Virginia, we have found *A. litigata* feeding on *Lythrum salicaria* L. (Lythraceae). Additionally, we have identified series of adults labeled as “feeding on” foliage of strawberry [*Fragaria*] and plum [*Prunus*] (Rosaceae). Thomas O. Robbins (pers. comm.) has stated that this beetle species defoliated *Frankenia salina* (Molina) I. M. Johnston (Frankeniaceae) that was imported into central Texas.

***Altica marevagans* Horn.** This species has been reported from maple [*Acer*] (Aceraceae); *Sesuvium maritimum* (Walt.) B.S.P. (Aizoaceae); *Erigeron canadensis* L., *Helenium*, *Heterotheca subaxillaris* (Lam.) N. L. Britt. & Rusby, *Iva*, *Solidago* (Asteraceae); *Gaura angustifolia* Michx., *Ligustrum lucidum* Aiton, *L. octovalvis* (Jacq.) Raven, *Oenothera biennis* L., *O. humifusa* Nutt. (Onagraceae); and *Primula* (Primulaceae) (Beutenmüller, 1890a; Blatchley, 1917, 1924a; Chittenden, 1892; Dickerson & Weiss, 1920; Douglass, 1929; Dozier, 1918; Flowers *et al.*, 1994; Kirk, 1969; Lee & Furth, 2000; Levan *et al.*, 1963; Scott *et al.*, 1932; Smith, 1900, 1910a; Stirrett, 1924; Vogt *et al.*, 1979; Weigel & Baumhofer, 1948; Weiss, 1922b; Wiegert *et al.*, 1967; Wilcox, 1979). Plants in the family Onagraceae are normal hosts.

***Altica nancyae* Stirrett.** This species has been collected by sweeping range grasses [Poaceae] (Balsbaugh, 1980). However, sweeping records, in and of themselves, should not be interpreted as host associations.

***Altica obliterated* LeConte.** This species has been recorded from *Gaura parviflora* Douglas ex Lehm. [*G. mollis* James] (Onagraceae) (Brisley, 1925). However, as noted by Gentner (1928a), this report was based on a population of *A. brisleyi* Gentner. Additionally, adults of this beetle species have been reported from grape [*Vitis*] (Vitaceae) (Brisley, 1925), but this was likely also based on misidentified beetles. Beyond this, *A. obliterated* has been recorded from prairie clover [*Dalea* or *Trifolium*] (Fabaceae), salvia [*Salvia*] (Lamiaceae),

and *Fallugia* (Rosaceae) (Douglass, 1929; Fall & Cockerell, 1907), but some of these associations may have been incidental. In a previously unpublished observation, we have found large numbers of *A. oblitterata* in the Chiricahua Mountains of Arizona where they were defoliating *Fallugia paradoxa* (D. Don) Endl. ex Torr. in Emory (Rosaceae).

***Altica polita* Olivier.** This species has been recorded from *Oenothera* (Onagraceae) (Wilcox, 1979).

***Altica prasina* LeConte.** This species is associated with Salicaceae, having been recorded from *Populus balsamifera* L., *P. candicans* Ait. [hybrid of *P. balsamifera* and *P. x jackii* Sarg.], *P. deltoides* Marshall, *P. nigra* L., *P. trichocarpa* J. Torr. & A. Gray ex Hook., *Salix exigua* Nutt., *S. lasiolepis* Benth., and *S. scouleri*-ana Barratt ex Hook. (Barstow & Gittins, 1971; Blake, 1936a; Brown, 1938; Cranshaw *et al.*, 2000; Downie & Arnett, 1996; Furniss & Carolin, 1977; Hatch, 1971; Ives & Wong, 1988; LeSage, 1990b, 1995; Rank *et al.*, 1996; Raizenne, 1975; Wilcox, 1979). In previously unpublished investigations, we have seen *A. prasina* labeled from Colorado in association with narrowleaf cottonwood [*Populus angustifolia* James ex Long]. Under experimental conditions, this beetle species has also fed sparingly on *Salix babylonica* L. (Rank *et al.*, 1996).

Woods (1917) reported a race of “*Altica bimarginata* Say” that fed on balsam poplar [*Populus balsamifera*]. However, according to Brown (1938), the beetles in actuality were probably *A. prasina populi* Brown.

Beyond Salicaceae, *A. prasina* has been collected in numbers on *Sorbus sitchensis* M. Roem. (Rosaceae) (Blake, 1936a). However, LeSage (1975) discounted this association as probably being accidental. Additionally, LeSage (1995) reported material labeled from *Asclepias* (Asclepiadaceae); *Artemisia* (Asteraceae); *Humulus* (Cannabaceae); *Sambucus* (Caprifoliaceae); *Medicago sativa* L., *Melilotus* (Fabaceae); *Leymus cinereus* (Scribn. & Merr.) A. Löve (Poaceae); *Ceanothus sanguineus* Pursh (Rhamnaceae); *Prunus virginiana* L., *Purshia tridentata* (Pursh) DC. (Rosaceae); *Verbascum* (Scrophulariaceae); and *Sequoia sempervirens* (D. Don) Endl. (Taxodiaceae). However, he similarly considered these associations to be incidental. Other workers have reported *A. prasina* from water alder [presumably *Alnus*] (Betulaceae) and *Prunus virginiana* (Rosaceae) (Betulaceae) (Horning & Barr, 1970; Moore, 1937), but these associations were likely either incidental or based on misidentification.

In addition to natural associations, caged larvae have readily accepted alder [*Alnus*] (Betulaceae) (Brown, 1938). However, this is not a normal food plant in nature.

***Altica pretiosa* Schaeffer.** This species has been reported from leaves of wild rose [*Rosa*] (Rosaceae) (Schaeffer, 1932b).

***Altica probata* Fall.** This species is reported to feed on *Fragaria chiloensis* (L.) Duchn. and *Rosa nuktana* K. E. Presl (Rosaceae) (Abdullah & Qureshi, 1969; Carr, 1988; Essig, 1958; Fall, 1920; Hatch, 1971; Moznette, 1917; Stirrett, 1924). Beyond this, Knowlton (1954b) reported “*Altica* sp., possibly *probata* Fall” that was swept from rose [*Rosa*].

***Altica ribis* Brown.** This species occurs on *Ribes americanum* P. Mill. (Grossulariaceae) (Brown, 1946; Downie & Arnett, 1996; Wilcox, 1979).

***Altica rosae* Woods.** Hosts are reported to be species of *Fragaria* and *Rosa* (Rosaceae) (Abdullah & Qureshi, 1969; Clark, 2000; Downie & Arnett, 1996; Johnson, 1927; Proctor, 1938, 1946; Schaeffer, 1928a, 1932b; Stirrett, 1924; Wilcox, 1979; Woods, 1918a). Beyond this, Fall (1920) reported beetles probably belonging to this species from Lombardy plum [*Prunus domestica* L.] (Rosaceae).

Under experimental conditions, *A. rosae* has eaten *Chamerion angustifolium* (L.) Holub and *Epilobium palustre* L. (Onagraceae), as well as *Fragaria virginiana* Mill., *Rosa virginiana* P. Mill., and *R. ywara* Carr. (Rosaceae) (Woods, 1918a). However, the non-rosaceous plants may not be hosts under natural conditions.

***Altica schwarzi* Blatchley.** Blatchley (1914) stated that this species occurs on semi-aquatic plants. Later (Blatchley, 1922), he reported two specimens swept from low huckleberry [*Gaylussacia*] (Ericaceae).

***Altica subcostata* LeSage.** Hosts are species of *Betula* (Betulaceae), including *B. glandulosa* Michx., *B. nigra* L., and *B. occidentalis* Hook. (LeSage, 1990b, 1995). Beyond this, LeSage (1995) reported material labeled from *Aronia* (Rosaceae), but he discounted this association.

***Altica subplicata* LeConte.** Hosts are species of *Salix* (Salicaceae), including *S. bebbiana* Sarg., *S. cordata* Michx., and *S. exigua* Nutt. (Anonymous, 1985; Bach, 1990, 1993a, 1993b, 1993c, 1994a, 1994b; Bach & Carr, 1990; Baker, 1972; Barstow & Gittins, 1971; Blake, 1936a; Clark, 2000; DeSwarte & Balsbaugh, 1973; Downie & Arnett, 1996; Downie & White, 1967; Gannon *et al.*, 1994; Kirk & Balsbaugh, 1975; LeSage, 1995; McDaniel *et al.*, 1992; Milanowski & Bach, 1994; Popenoe, 1878; Raizenne, 1975; Rickelmann & Bach, 1991; Riley & Enns, 1979; Rouse & Medvedev, 1972; Wilcox, 1954, 1979). In previously unpublished field work, we have found an adult on *S. caroliniana* Michx. In laboratory tests, DeSwarte & Balsbaugh (1973) found that adults would accept *S. amygdaloides* Anderss. However, they were “not fond of it” as they were of *S. interior* Rowlee [*S. exigua* ssp. *interior* (Rowlee) Cronquist].

Bach (1993c) observed that late season *A. subplicata* fed on *Oenothera biennis* L. (Onagraceae) and *Po-*

tentilla anserina L. (Rosaceae), but after the quality of *Salix cordata* had declined dramatically. Beyond this, LeSage (1995) reported material labeled from *Populus deltoides* Marshall (Salicaceae), but he deemed this association to be incidental. Bach (1993b, 1993c) reported a few beetles from *Artemisia*, *Solidago* (Asteraceae); *Juncus* (Juncaceae); grass [Poaceae]; *Populus balsamifera* L., *P. tremuloides* Michx., *Salix lucida* Muhl., and *S. myricoides* Muhl. (Salicaceae). However, she did not consider these plants to be normal hosts.

***Altica suspecta* Fall.** Fall (1920) reported material collected from sugar beet [*Beta vulgaris* L.] (Chenopodiaceae). However, he did not believe that this plant was a larval host or that beetles would prove to be a beet pest.

***Altica sylvia* Malloch.** Hosts are species of *Vaccinium* (Ericaceae), including *V. angustifolium* Benth. (Anonymous, 1969e; Boulanger, 1968; Downie & Arnett, 1996; Malloch, 1919; Maxwell & Wood, 1961; Metcalf & Metcalf, 1993; Proctor, 1938, 1946; Shaw *et al.*, 1950; Swan & Papp, 1972; Wilcox, 1979).

Woods (1918a) reported “*Altica torquata* LeConte” that fed naturally on *Vaccinium pensylvanicum* Lam. [*V. angustifolium*]. He further conducted experiments in which these insects fed on this plant, as well as on *Quercus rubra* L. (Fagaceae) and *Prunus nigra* Ait. (Rosaceae). However, according to Malloch (1919), the beetles were actually *A. sylvia*.

***Altica testacea* Fall.** We have collected adults of this species from *Calylophus hartwegii* ssp. *pubescens* (Gray) Towner & Raven (Onagraceae) in central Texas.

***Altica texana* Schaeffer.** In Texas, we have collected adults of this species from several members of the Onagraceae. Those plants identified to species include *Calylophus serrulatus* (Nutt.) Raven, *Gaura mckelveyae* (Munz) Raven & Gregory, *G. mollis* James, and *Oenothera speciosa* Nutt.

***Altica tombacina* Mannerheim.** This species normally feeds on *Chamerion angustifolium* (L.) Holub (Onagraceae) (Atkins, 1964; Carr, 1920, 1988; DeSwarte & Balsbaugh, 1973; Dirks-Edmunds, 1965; Hatch, 1971; Hicks, 1954, 1955a; Michaud, 1990; Morris *et al.*, 1992; Wilcox, 1979). It has also been recorded from *Alnus rubra* Bong. (Betulaceae); *Fragaria* and *Rosa* (Rosaceae) (Atkins, 1964; Beller & Hatch, 1932; Carr, 1988; Dirks-Edmunds, 1965; Essig, 1958; Fall, 1920; Gibson, 1913; Knowlton & Smith, 1936; Mannerheim, 1962; Michaud, 1990; Wilcox, 1979). However, some of the recorded damage to strawberry [*Fragaria*] may have been based on misidentification of *Altica probata* Fall (see Moznette, 1917). Gibson (1913) noted that reports of the synonym *Haltica evicta* LeConte from cabbage [*Brassica oleracea* L.] and turnip [*B. rapa* L.] (Brassicaceae) were based on misidentified insects.

***Altica torquata* LeConte.** This species has been associated with desert evening primrose [possibly *Camissonia brevipes* (A. Gray) P. H. Raven], desert primrose [possibly *Camissonia brevipes*], and *Oenothera* (Onagraceae) (Carr, 1988; Essig, 1958; Westcott, 1946). In previously unpublished investigations, we have associated California populations with *Oenothera deltoides* J. Torr. & Frem.

This beetle species has also been reported from *Primula* (Primulaceae) (Anonymous, 1963e, 1964h). However, this was likely due to nomenclatural confusion with evening primrose [*Oenothera*] (Onagraceae).

Additionally, “*A. torquata*” has been reported from species of *Vaccinium* (Ericaceae), including *V. pensylvanicum* Lam. [*V. angustifolium* Benth.] (Abdullah & Qureshi, 1969; Phipps, 1930; Stirrett, 1924; Westcott, 1946; Woods, 1918a). Insects occurring naturally on *Vaccinium* have fed experimentally on *Quercus rubra* L. (Fagaceae) and *Prunus nigra* Ait. (Rosaceae) (Woods, 1918a). However, such observations were apparently based on misidentified beetles (Fall, 1920; Malloch, 1919).

Also, *A. torquata* has been reported from *Ambrosia dumosa* (A. Gray) W. W. Payne, *Hymenoclea salsola* J. Torr. & A. Gray (Asteraceae); oak [*Quercus*] (Fagaceae); sorghum [*Sorghum*] (Poaceae); *Adenostoma sparsifolium* J. Torr. (Rosaceae); willow [*Salix*] (Salicaceae); and *Vitis* (Vitaceae) (Anonymous, 1960i, 1961d, 1961j, 1962d, 1968q; Blaisdell, 1892; Bruner, 1895; Carr, 1988; Douglass, 1929; Ebeling, 1959; Essig, 1958; Fall, 1920; Goeden & Ricker, 1976a, 1986a; Hayes, 1922; Jaques, 1951; Knowlton & Taylor, 1952; Taylor & Knowlton, 1952; Westcott, 1946; Zoller, 1968). In previously unpublished investigations, we have seen California specimens labeled from *Baccharis* (Asteraceae) and *Mimosa* (Fabaceae). Likely, at least some of these non-onagraceous associations were incidental, or they were based on misidentification.

***Altica ulmi* Woods.** This species is associated with *Ulmus* (Ulmaceae), including *U. americana* L. (Abdullah & Qureshi, 1969; Dearborn & Donahue, 1993; Downie & Arnett, 1996; Furth, 1981; Hoffman, 1942; Lindroth, 1971; MacAloney, 1950; Raizenne, 1975; Simpson, 1970; Wilcox, 1979; Woods, 1918a). It has also been recorded in association with *Tilia americana* L. (Tiliaceae) (Furth, 1981; Wilcox, 1979). Additionally, this beetle species has been reported from white pine [*Pinus strobus* L.] (Pinaceae) and *Vitis* (Vitaceae) (Carr, 1988; Dearborn & Donahue, 1993; Furth, 1981), but these are probably not normal hosts.

Under experimental conditions, *A. ulmi* has eaten *Corylus rostrata* Ait. [*C. cornuta* Marsh.] (Betulaceae); *Cornus canadensis* L., *C. paniculata* L'Her. [*C. racemosa* Lam.] (Cornaceae); *Vaccinium pensylvanicum* Lam. [*V. angustifolium* Benth.] (Ericaceae); *Phaseolus* (Fabaceae); *Quercus rubra* L. (Fagaceae); *Ribes grossularia* L. [*R. reclinatum* L.] (Grossulariaceae); *Chamerion angustifolium* (L.) Holub, *Epilobium palustre*

Leaf Beetles and Associated Plants

L., *Oenothera biennis* L. (Onagraceae); *Zea mays* L. (Poaceae); *Amelanchier oblongifolia* (T. & G.) Roem. [*A. canadensis* Medik.], *Fragaria virginiana* Mill., *Prunus domestica* L., *P. nigra* Ait., *P. pensylvanica* L. f., *P. virginiana* L., *Rosa virginiana* P. Mill., *R. ywara* Carr., *Sorbus americana* Marsh. (Rosaceae); *Salix cordata* Michx., “*Salix* near *nigra* Marsh.,” *S. petiolaris* J. E. Sm., *S. rostrata* Richards. (Salicaceae); *Lycopersicon esculentum* Mill. (Solanaceae); *Tilia americana* (Tiliaceae); *Ulmus americana* and *U. fulva* Michx. [*U. rubra* Muhl.] (Ulmaceae) (Woods, 1918a). Even so, some of these plants are probably not significant hosts under natural conditions.

This beetle species has frequently been confused with *Altica carinata* Germar. See our treatment of that species for additional host associations that may have been based on populations of *A. ulmi*.

***Altica vaccinia* Blatchley.** This species has been recorded from *Chrysobalanus oblongifolius* Michx. [*Licania michauxii* Prance] (Chrysobalanaceae); dwarf huckleberry [*Gaylussacia dumosa* (Andr.) Torr. & Gray], *Vaccinium* (Ericaceae); *Polygonum glaucum* Nutt. and *P. maritimum* L. (Polygonaceae) (Balsbaugh & Hays, 1972; Blatchley, 1916, 1924a; Löding, 1945; Peck & Thomas, 1998; Stirrett, 1924).

***Altica vialis* Fall.** Brisley (1925) stated that this species is found in Arizona together with *A. oblitterata* LeConte. He associated *A. oblitterata* with *Gaura parviflora* Douglas ex Lehm. [*G. mollis* James] (Onagraceae) and grape [*Vitis*] (Vitaceae). Carr (1988) listed *A. vialis* from *Gaura parviflora* [*G. mollis*] and *Vitis*, but this was based entirely on Brisley’s report.

***Altica vicaria* Horn.** This species has been reported from *Beta vulgaris* L. (Chenopodiaceae) (Fall, 1920; Wilcox, 1979). However, this may not be a true host.

***Altica viridana* Schaeffer.** This species has been associated with *Kalmia latifolia* L., *Azalea* [*Rhododendron*], and rhododendron [*Rhododendron*] (Ericaceae) (Balsbaugh & Hays, 1972; Downie & Arnett, 1996; Schaeffer, 1932b; Udine, 1960; Wilcox, 1954, 1979).

***Altica woodsii* Isely.** This species is associated with Vitaceae, having been recorded from *Parthenocissus quinquefolia* (L.) Planch. and *Vitis rotundifolia* Michx. (Balsbaugh & Hays, 1972; Clark, 2000; Downie & Arnett, 1996; McGiffin & Neunzig, 1985; Riley & Enns, 1979; Sanderson & Peairs, 1931; Stirrett, 1924; Wilcox, 1954, 1979). Beyond this, Blatchley (1930) reported Florida specimens beaten from Spanish moss [*Tillandsia usneoides* (L.) L.] (Bromeliaceae), but the beetles were purplish rather than the normal greenish color, and the identification is therefore doubtful. In any case, this association was probably incidental.

***Amphelasma cavum* (Say).** This species is apparently associated with Lamiaceae, including *Salvia xalapensis* Benth. (Eben, 2000; Eben & Espinosa de los Monteros, 2003; Riley *et al.*, 2002; Smith, 1966). Beyond this, Melhus *et al.* (1954) and Painter (1955) listed the subspecies *A. c. cavum* from Guatemala in association with *Zea mays* L. (Poaceae). Eben (2000) stated that Ward *et al.* (1977) had reported *A. cavum* from *Prosopis* (Fabaceae), but their record was actually for “*Amphelasma* sp.” They did not specify the beetle species involved.

***Androlyperus californicus* (Schaeffer).** This species has been associated with *Mentzelia pectinata* Kell. (Loasaceae) (Clark, 2001).

***Androlyperus fulvus* Crotch.** This species has been associated with *Eriophyllum confertifolium* (DC.) A. Gray (Asteraceae) and *Clarkia cylindrica* (Jepson) Harlen Lewis & M. Lewis (Onagraceae) (Clark, 2001). Additionally, a specimen has been reported from *Quercus douglasii* Hook. & Arn. (Fagaceae) (Clark, 1987).

***Androlyperus incisus* Schaeffer.** This species has been reported in association with *Lupinus arizonicus* S. Wats. (Fabaceae); *Mentzelia hirsutissima* S. Wats., *M. involucrata* S. Wats. (Loasaceae); *Oenothera* (Onagraceae); *Eriogonum* (Polygonaceae); and *Larrea divaricata* Cav. (Zygophyllaceae) (Clark, 2001). In previously unpublished observations, we have collected beetles in California from *Dalea* (Fabaceae).

***Androlyperus maculatus* LeConte.** This species has been reported in association with *Encelia farinosa* A. Gray (Asteraceae), *Salvia* (Lamiaceae), and *Sphaeralcea ambigua* A. Gray (Malvaceae) (Clark, 2001).

***Anisostena ariadne* (Newman).** This species is associated with Poaceae, including *Panicum virgatum* L. (Downie & Arnett, 1996; Ford & Cavey, 1982, 1985; Riley & Enns, 1979; Staines, 1994a).

***Anisostena bicolor* (Smith).** This species is reported to mine the leaves of *Tripsacum dactyloides* (L.) L. (Poaceae) (Smith & Wilbur, 1937; Staines, 1994a).

***Anisostena californica* Van Dyke.** Van Dyke (1925a) collected specimens from a species of reedy grass [Poaceae]. Horning & Barr (1970) similarly reported collecting *A. californica* by sweeping grass [Poaceae].

***Anisostena cyanea* Staines.** This species has been recorded from *Bothriochloa saccharoides* (Sw.) Rydb. (Poaceae) (Staines, 1994c). In previously unpublished investigations conducted in Texas, we have collected adults from *B. barbinodis* (Lag.) Herter and *B. laguroides* ssp. *torreyana* (Steud.) Allred & Gould.

***Anisostena funesta* (Baly).** In previously unpublished investigations in Texas, we have collected adults of this species from *Paspalum pubiflorum* Rupt. ex Fourn. and *P. setaceum* Michx. (Poaceae).

***Anisostena gracilis* (Horn).** In Mexico, this species has been recorded from *Panicum maximum* Jacq. (Poaceae) (Noguera, 1988; Staines, 1994b).

Anisostena kansana Schaeffer. This species feeds on and mines the leaves of *Tripsacum dactyloides* (L.) L. (Poaceae) (Riley & Enns, 1982; Staines, 1994a).

Anisostena nigrata (Olivier). This species mines leaves of *Schizachyrium scoparium* (Michx.) Nash (Poaceae) (Clark, 2000; Ford & Cavey, 1985; Peck & Thomas, 1998; Staines, 1994c). It is also reported to feed on *Andropogon* (Poaceae) (Thomas & Werner, 1981). Additionally, it has been collected from flowers of *Malvastrum aurantiacum* (Scheele) Walp. (Malvaceae) (Clark, 2000; Staines, 1994c).

Anisostena perspicua (Horn). This species has been recorded from *Bothriochloa*, *Sporobolus*, and *Tridens* (Poaceae) (Thomas & Werner, 1981). It has also been collected by sweeping flowers of *Acacia constricta* Benth. ex A. Gray (Fabaceae) (Staines, 1994c).

Anisostena texana Schaeffer. We have collected adults of this species from *Schizachyrium scoparium* (Michx.) Nash (Poaceae) in southern Texas.

Anomoea flavokansiensis Moldenke. This species has been associated with *Amorpha*, *Desmanthus illinoensis* (Michx.) MacMill. ex Robinson & Fern., *Gleditsia triacanthos* L., *Mimosa*, *Prosopis glandulosa* J. Torr., *Robinia pseudoacacia* L., and *Schrankia* (Fabaceae) (Burke *et al.*, 1974; Clark, 2000; Downie & Arnett, 1996; LeSage & Stiefel, 1996; Moldenke, 1970; Riley & Enns, 1979; Stiefel & Margolies, 1998; Stiefel *et al.*, 1995, 1997; Wilcox, 1979). It has also been reported from tall grass [Poaceae] and *Ampelopsis* (Vitaceae) (Burke *et al.*, 1974; Riley & Enns, 1979), but these are probably not normal food plants. Beyond these natural hosts, larvae have been reared to adulthood on a mixture containing dead leaves from *Cornus drummondii* C. A. Meyer (Cornaceae); *Quercus macrocarpa* Michx. (Fagaceae); *Ulmus americana* L. and *U. rubra* Muhl. (Ulmaceae) (LeSage & Stiefel, 1996; Stiefel *et al.*, 1995).

Rouse & Medvedev (1972) reported *Anomoea hoegei* Jacoby, now considered a subspecies of *A. rufifrons* Lacordaire, from Arkansas in association with soybean [*Glycine max* (L.) Merr.] (Fabaceae) and willow [*Salix*] (Salicaceae). McLemore & Bower (1959) reported *A. hoegei* from Oklahoma in association with mimosa [*Albizia* or *Mimosa*] (Fabaceae). These records were likely based on misidentification of *A. flavokansiensis*.

In previously unpublished field work in Illinois, we have found adults of *A. flavokansiensis* on *Desmodium paniculatum* (L.) DC. (Fabaceae), with the young leaflets of this plant exhibiting feeding damage. Captive beetles fed sparingly on young leaflets, but they did not eat the older foliage. On several occasions in Missouri, we have found adults on *Amorpha fruticosa* L. (Fabaceae), and, in one instance, feeding was observed. In Texas, we have observed a mating swarm on *Sesbania* (Fabaceae), but the beetles may not have been feeding on this plant. Twice in Missouri, we have found numerous adults on *Salix exigua* Nutt. (Salicaceae), but feeding was not observed, and these aggregations likely also constituted mere mating swarms. Thomas O. Robbins (pers. comm.) has found a mating swarm of *A. flavokansiensis* on a plant tentatively identified as *Symphytotrichum ericoides* (L.) Nesom (Asteraceae), and we have confirmed the identification of the beetle vouchers. Even so, the beetles were probably not feeding on this plant.

Anomoea laticlavata (Forster). This species is normally associated with Fabaceae, having been recorded from *Albizia julibrissin* (Willd.) Durazz., *Amorpha canescens* Pursh, *A. fruticosa* L., *Desmanthus illinoensis* (Michx.) MacMill. ex Robinson & Fern., *Desmodium*, *Gleditsia triacanthos* L., *Lespedeza*, *Robinia pseudoacacia* L., and *Schrankia* (Anonymous, 1954e, 1960u, 1961q, 1961t, 1962g, 1977d, 1985; Baker, 1972; Balsbaugh & Hays, 1972; Burke *et al.*, 1974; Carr, 1988; Chittenden, 1892; Dillon & Dillon, 1961; Downie & Arnett, 1996; Felt, 1907; Gates & Charlton, 1963; Hargrove, 1986; Hatfield, 1959; Hendrickson, 1930b; Hespenheide, 1996; Hopkins, 1893; Houser, 1966; Kirk, 1970; Kirk & Balsbaugh, 1975; Lenhardt, 1961; Lenhardt & Barrows, 1962; LeSage & Stiefel, 1996; Moldenke, 1970; Munson *et al.*, 1962b; Negley, 1963; Packard, 1890; Riley & Enns, 1979; Smith, 1900, 1910a; Thompson, 1959, 1962; Thompson *et al.*, 1960; Ulke, 1903; Walker, 1962; Wickham, 1896a; Wilcox, 1954, 1979). It has also been swept from alfalfa [*Medicago sativa* L.] (Fabaceae) (Kirk, 1970), but sweeping records should not always be regarded as host associations. Bickensstaff & Huggans (1962) included *A. laticlavata* in a list of insects collected from soybean fields [*Glycine max* (L.) Merr.], but this should not necessarily be interpreted as a host association.

Apart from Fabaceae, *A. laticlavata* feeds on *Diospyros virginiana* L. (Ebenaceae) (Flowers *et al.*, 1994; Kirk, 1969; LeSage & Stiefel, 1996; Milliron, 1958; Riley & Enns, 1979). In previously unpublished field work in Missouri, we have found numerous adults feeding on this plant on several occasions.

Beyond Ebenaceae and Fabaceae, *A. laticlavata* has been reported from plants in other families: *Rhus glabra* L. (Anacardiaceae); *Daucus carota* L. (Apiaceae); *Ambrosia*, *Baccharis halimifolia* L., *Vernonia* (Asteraceae); *Betula lenta* L., *B. papyrifera* Marsh., *Alnus rugosa* (Du Roi) Spreng. [*A. incana* ssp. *rugosa* (Du Roi) Clausen] (Betulaceae); Spanishmoss [*Tillandsia usneoides* (L.) L.] (Bromeliaceae); *Quercus virginiana* P. Mill. (Fagaceae); pecan [*Carya illinoensis* (Wang.) K. Koch] (Juglandaceae); asparagus [*Asparagus officinalis* L.] (Liliaceae); cotton [*Gossypium*] (Malvaceae); Virginia pine [*Pinus virginiana* P. Mill.] (Pinaceae); Jersey tea [*Ceanothus americanus* L.] (Rhamnaceae); *Crataegus*, cherry [*Prunus*] (Rosaceae); *Citrus*

reticulata Blanco (Rutaceae); *Populus tremuloides* Michx., *Salix bebbiana* Sarg., *S. discolor* Muhl. (Salicaceae); *Ulmus* (Ulmaceae); and *Vitis rotundifolia* Michx. (Vitaceae) (Anonymous, 1969q, 1985; Ashmead, 1894; Baker, 1972; Balsbaugh & Hays, 1972; Blatchley, 1910, 1924a; Burke *et al.*, 1974; Carr, 1988; Chittenden, 1892; Desin, 1962; Dillon & Dillon, 1961; Douglass, 1929; Dozier, 1918, 1920; Furth, 1985; Glover, 1960; Graham, 1962; Harrington, 1883; Harris & Piper, 1970; Hopkins, 1893; Jolivet, 1978; Kirk, 1970; Lago & Mann, 1987; LeSage & Stiefel, 1996; Mast, 1961; McGiffin & Neunzig, 1985; Morris, 1913, 1914b; Ortenburger & Hatch, 1926; Pallister, 1953; Palmer & Bennett, 1988; Popenoe, 1877; Raizenne, 1975; Riley & Enns, 1979; Schwarz, 1878; Wickham, 1896a; Wilcox, 1954; Youtsey, 1964). Concerning the recorded association of this beetle species with oak [*Quercus*], Chittenden (1892) stated that, in spite of published reports, he was “satisfied that it does not attack oak in the North, at least not while there is sufficient abundance of leguminous leaves available for food.” Likely, many of the occurrences on plants other than Ebenaceae and Fabaceae were adventitious, in spite of some mention of feeding.

In previously unpublished field work in Missouri, we have seen adults feeding on *Rhus glabra* (Anacardiaceae) and *Juglans nigra* L. (Juglandaceae), and we have found other adults on heavily damaged leaves of *Hamamelis vernalis* Sarg. (Hamamelidaceae). We have also found adults on *Carya cordiformis* (Wang.) K. Koch (Juglandaceae). Even so, none of these plants is probably a normal host.

In addition to the natural associations reported above, larvae have been reared to adulthood on a mixture containing dead leaves of *Cornus drummondii* C. A. Meyer (Cornaceae); *Quercus macrocarpa* Michx. (Fagaceae); *Ulmus americana* L. and *U. rubra* Muhl. (Ulmaceae) (LeSage & Stiefel, 1996).

***Anomoea nitidicollis* Schaeffer.** In previously unpublished field work in western Texas, we have collected the subspecies *A. n. nitidicollis* from *Acacia constricta* Benth. *ex* A. Gray (Fabaceae) on several occasions, including one time when we found the beetles in a mating swarm on this plant.

***Anomoea rufifrons* (Lacordaire).** Moldenke (1970) indicated that this species is usually found in association with Fabaceae. Indeed, Ward *et al.* (1977) listed it from *Prosopis glandulosa* J. Torr. In previously unpublished investigations, we have collected a series of the subspecies *A. r. mutabilis* (Lacordaire) in Texas from *Acacia greggii* A. Gray. We have also seen a specimen of this subspecies labeled from Texas in association with locust [*Gleditsia* or *Robinia*]. Additionally, we have identified a series of *A. r. mutabilis*, collected by Thomas O. Robbins from *Prosopis glandulosa* in central Texas, and we thereby confirm the previously published association with this plant.

Beyond Fabaceae, the subspecies *A. r. mutabilis* has been reported in association with pecan [*Carya illinoensis* (Wang.) K. Koch], walnut [*Juglans*] (Juglandaceae); “arroz” [*Oryza sativa* L.] (Poaceae); and “cítricos” [*Citrus*] (Rutaceae) (Anonymous, 1964b; Domínguez & Carrillo, 1976). The subspecies *A. r. sanguinipennis* Lacordaire has been recorded in Central America from *Bougainvillea* (Nyctaginaceae) (Maes & Staines, 1991). In previously unpublished investigations, we have identified a series of *A. r. mutabilis* that was collected by Thomas O. Robbins from *Rhus lanceolata* (Gray) Britt. (Anacardiaceae) in central Texas.

Rouse & Medvedev (1972) reported *A. hoegei* Jacoby, now considered a subspecies of *A. rufifrons*, from Arkansas in association with soybean [*Glycine max* (L.) Merr.] (Fabaceae) and willow [*Salix*] (Salicaceae). McLemore & Bower (1959) reported *A. hoegei* from Oklahoma in association with mimosa [*Albizia* or *Mimosa*] (Fabaceae). However, these records were likely based on misidentification of *A. flavokansiensis* Moldenke.

***Apthona abdominalis* (Duftschmid).** This species, including Palearctic populations, has been associated with *Euphorbia cyparissias* L., *E. esula* L., *E. helioscopia* L., *E. paralias* L., *E. pseudochamaesyce* Fisch., Avé-Lall., *E. seguieriana* Neck., *E. stricta* L., and *E. virgata* Waldst. & Kit. (Euphorbiaceae) (Campobasso *et al.*, 1999; Doguet, 1994; Fornasari, 1993, 1995b, 1996; Fornasari & Pecora, 1995; Gassmann & Schroeder, 1995; Heikertinger, 1944; Jackson, 1997; Jolivet, 2001; Jolivet & Verma, 2002; Julien & Griffiths, 1998; Konstantinov, 1996, 1998; Konstantinov & Lingafelter, 2002; Konstantinov & Vandenberg, 1996; Konstantinov *et al.*, 2001; Lopatin, 1984; Lym, 1998; Mohr, 1966; Nowierski *et al.*, 1996; Petitpierre, 1999; Senft & Cooke, 1994; White, 1996b). As noted by Fornasari (1996) and Fornasari & Pecora (1995), a recorded association with *Linum usitatissimum* L. (Linaceae) is probably not valid.

Under experimental conditions, *A. abdominalis* has at least nibbled on some of the *Euphorbia* species mentioned above, as well as on *Helianthemum apenninum* L. (Cistaceae); *Ipomoea alba* L. (Convolvulaceae); *Chamaesyce prostrata* (Aiton) Small, *Codiaeum variegatum* (L.) A. Juss., *Euphorbia antisiphilitica* Zucc., *E. characias* L., *E. corollata* L., *E. lathyris* L., *E. lucida* Waldst. & Kit., *E. maculata* L., *E. marginata* Pursh, *E. peplus* L., *E. serpyllifolia* Persoon, *E. milii* Ch. des Moulins [*E. splendens* Bojer *ex* Hook.], *E. supina* Rafinesque Schmaltz, *E. tirucalli* L., “*Euphorbia* prob. *triangularis* Desfontaines,” *E. trigona* Haworth, *Ricinus communis* L. (Euphorbiaceae); *Pelargonium zonale* Aiton (Geraniaceae); *Lythrum salicaria* L. (Lythraceae); and *Ficus elastica* Roxburg (Moraceae) (Fornasari & Pecora, 1995). Most of these plants were not thought to be suitable hosts under natural conditions.

***Aphthona cyparissiae* (Koch).** This species, including Palearctic populations, has been associated with *Euphorbia cyparissias* L., *E. esula* L., *E. peplus* L., *E. seguieriana* Neck., and *E. virgata* Waldst. & Kit. (Euphorbiaceae) (Balsbaugh *et al.*, 1981; Campobasso *et al.*, 1999; Doguet, 1994; Fornasari, 1993, 1996; Fornasari & Pecora, 1995; Foudras, 1860; Gassmann, 1995, 1996; Gassmann & Schroeder, 1995; Gassmann *et al.*, 1996; Heikertinger, 1944; Jackson, 1997; Jolivet, 2001; Julien & Griffiths, 1998; Konstantinov, 1996, 1998; Konstantinov & Vandenberg, 1996; Lajeunesse *et al.*, 1995; LeSage & Paquin, 1996; Lym, 1998; McDaniel *et al.*, 1992; Mohr, 1966; Nowierski *et al.*, 1996; Petitpierre, 1999; Vail *et al.*, 2001; Vig, 1997; White, 1996b).

Under laboratory conditions, adult feeding or larval development has also occurred on *Euphorbia amygdaloides* L., *E. corollata* L., *E. polychroma* Kern. [*E. epithymoides* L.], *E. heterophylla* L., *E. lathyris* L., *E. myrsinites* L., *E. oblongata* Griseb., *E. milii* Ch. des Moulins [*E. splendens* Bojer ex Hook.], and *E. tirucalli* L. (Gassmann *et al.*, 1996; White, 1996b). However, this feeding or development was sometimes very slight.

***Aphthona czwalinae* Weise.** This species, including Palearctic populations, has been associated with *Euphorbia cyparissias* L., *E. esula* L., *E. lucida* Waldst. & Kit., *E. seguieriana* Neck., and *E. virgata* Waldst. & Kit. (Euphorbiaceae) (Balsbaugh *et al.*, 1981; Campobasso *et al.*, 1999; Fornasari, 1993, 1995a, 1996; Fornasari & Pecora, 1995; Gassmann, 1995, 1996; Gassmann & Schroeder, 1995; Gassmann *et al.*, 1996; Heikertinger, 1944; Jackson, 1997; Jolivet, 2001; Julien & Griffiths, 1998; Konstantinov, 1996, 1998; Konstantinov & Vandenberg, 1996; Lajeunesse *et al.*, 1995; LeSage, 1996a; LeSage & Paquin, 1996; Lopatin, 1984; Lym, 1998; Lym & Nelson, 2000; Mohr, 1966; Nowierski *et al.*, 1996; Vail *et al.*, 2001; White, 1996b).

Under laboratory conditions, adult feeding or larval development has also occurred on *Asclepias syriaca* L. (Asclepiadaceae); *Euphorbia amygdaloides* L., *E. lathyris* L., *E. marginata* Pursh, *E. myrsinites* L., *E. peplus* L., *Ricinus communis* L. (Euphorbiaceae); *Iris sibirica* L. (Iridaceae); and *Prunus* (Rosaceae) (Gassmann *et al.*, 1996). However, this feeding or development was sometimes very slight.

***Aphthona flava* Guillebau.** This species, including Palearctic populations, has been associated with *Euphorbia cyparissias* L., *E. esula* L., *E. lucida* Waldst. & Kit., *E. pannonica* Host., *E. seguieriana* Neck., *E. stepposa* Zoz, and *E. virgata* Waldst. & Kit. (Euphorbiaceae) (Balsbaugh *et al.*, 1981; Campobasso *et al.*, 1999; Fornasari, 1993, 1996; Fornasari & Pecora, 1995; Gassmann, 1995, 1996; Gassmann & Schroeder, 1995; Gassmann *et al.*, 1996; Heikertinger, 1944; Jackson, 1997; Jolivet, 2001; Julien & Griffiths, 1998; Konstantinov, 1998; Konstantinov & Vandenberg, 1996; Lajeunesse *et al.*, 1995; LeSage, 1996a; LeSage & Paquin, 1996; Lym, 1998; McDaniel *et al.*, 1992; Mohr, 1966; Nowierski *et al.*, 1996; Pemberton & Rees, 1990; Senft & Cooke, 1994; Stelljes & Wood, 2000; Vail *et al.*, 2001; Vig, 1992b; White, 1996b).

Under experimental conditions, adult feeding or larval development has also occurred on *Helianthemum nummularium* Mill. [*H. vulgare* Gaertn.] (Cistaceae); *Euphorbia amygdaloides* L., *E. antisiphilitica* Zucc., *E. corollata* L., *E. polychroma* Kern. [*E. epithymoides* L.], *E. incisa* Engelm., *E. lathyris* L., *E. oblongata* Griseb., *E. palmeri* Engelm. ex S. Watson, *E. peplus* L., *E. purpurea* (Raf.) Fern., *E. robusta* (Engelm.) Small, *E. spathulata* Lam., *E. milii* Ch. des Moulins [*E. splendens* Bojer ex Hook.], *E. telephioides* Chapm., *E. tirucalli* L., and *Vernicia fordii* (Hemsl.) Airy Shaw (Euphorbiaceae) (Gassmann *et al.*, 1996; Pemberton & Rees, 1990; White, 1996b). However, this feeding or development was sometimes very slight.

***Aphthona lacertosa* (Rosenhauer).** This species, including Palearctic populations, has been associated with *Euphorbia cyparissias* L., *E. esula* L., *E. lucida* Waldst. & Kit., *E. pannonica* Host., *E. salicifolia* Host., *E. seguieriana* Neck., *E. stepposa* Zoz, and *E. virgata* Waldst. & Kit. (Euphorbiaceae) (Campobasso *et al.*, 1999; Fornasari, 1996; Gassmann, 1996; Gassmann & Schroeder, 1995; Gassmann *et al.*, 1996; Heikertinger, 1944; Jackson, 1997; Julien & Griffiths, 1998; Konstantinov, 1996, 1998; Konstantinov & Vandenberg, 1996; Lajeunesse *et al.*, 1995; LeSage & Paquin, 1996; Lym, 1998; Lym & Nelson, 2000; Mohr, 1966; Nowierski *et al.*, 1996; Vail *et al.*, 2001; White, 1996b).

Under laboratory conditions, adult feeding or larval development has also occurred on *Chamaesyce nutans* (Lag.) Small, *Euphorbia chamaesyce* L. [*C. prostrata* (Aiton) Small], *Euphorbia amygdaloides* L., *E. antisiphilitica* Zucc., *E. corollata* L., *E. discoidalis* Chapm., *E. heterophylla* L., *E. incisa* Engelm., *E. lathyris* L., *E. maculata* L., *E. marginata* Pursh, *E. myrsinites* L., *E. oblongata* Griseb., *E. peplus* L., *E. milii* Ch. des Moulins [*E. splendens* Bojer ex Hook.], *E. tirucalli* L., *Ricinus communis* L., and *Vernicia fordii* (Hemsl.) Airy Shaw (Euphorbiaceae) (Gassmann *et al.*, 1996). However, this feeding or development was sometimes very slight.

***Aphthona nigriscutis* Foudras.** This species, including Palearctic populations, has been associated with *Euphorbia cyparissias* L., *E. esula* L., *E. gracilis* Elliott, *E. pannonica* Host., *E. seguieriana* Neck., and *E. virgata* Waldst. & Kit. (Euphorbiaceae) (Campobasso *et al.*, 1999; Fornasari, 1993, 1995a, 1996; Fornasari & Pecora, 1995; Gassmann, 1995, 1996; Gassmann & Schroeder, 1995; Gassmann *et al.*, 1996; Jackson, 1997; Jolivet, 2001; Julien & Griffiths, 1998; Konstantinov, 1996, 1998; Konstantinov & Vandenberg, 1996; Konstantinov *et al.*, 2001; Lajeunesse *et al.*, 1995; LeSage, 1996a; LeSage & Paquin, 1996; Lopatin, 1984; Lym,

Leaf Beetles and Associated Plants

1998; Lym & Nelson, 2000; McDaniel *et al.*, 1992; Nowierski *et al.*, 1996; Senft & Cooke, 1994; Vail *et al.*, 2001; Vig, 1992b; White, 1996b).

Under laboratory conditions, adult feeding or larval development has also occurred on *Catharanthus roseus* (L.) G. Don (Apocynaceae); *Lactuca sativa* L. (Asteraceae); *Euphorbia chamaesyce* L. [*Chamaesyce prostrata* (Aiton) Small], *Euphorbia amygdaloides* L., *E. antisiphilitica* Zucc., *E. corollata* L., *E. polychroma* Kern. [*E. epithymoides* L.], *E. lathyrus* L., *E. maculata* L., *E. marginata* Pursh, *E. myrsinites* L., *E. oblongata* Griseb., *E. peplus* L., *E. milii* Ch. des Moulins [*E. splendens* Bojer *ex* Hook.], *E. tirucalli* L., *Ricinus communis* L., *Vernicia fordii* (Hemsl.) Airy Shaw (Euphorbiaceae); *Iris sibirica* L. (Iridaceae); *Linum usitatissimum* L. (Linaceae); and *Rheum raphaniticum* L. (Polygonaceae) (Gassmann *et al.*, 1996). However, this feeding or development was sometimes very slight.

***Argopistes scyrtoides* LeConte.** Hosts are *Forestiera porulosa* (Michx.) Poir. and *F. segregata* (Jacq.) Krug & Urban (Oleaceae) (Blake, 1934; Blatchley, 1924a; Dyar, 1902; Flowers *et al.*, 1994; Peck & Thomas, 1998; Riley *et al.*, 2002). Beetles have also been reported from *Cuscuta* (Cuscutaceae) (Schwarz, 1902).

***Asphaera abdominalis* (Chevrolat).** This species has been reported from Latin America in association with *Buddleja humboldtiana* J. A. Schultes & J. H. Schultes [*B. cordata* Kunth in H. B. K.], *B. davidii* Franch. (Buddlejaceae); “chayotillo” [*Sicyos angulatus* L.] (Cucurbitaceae); “crotos” [*Codiaeum* or *Croton*] (Euphorbiaceae); “frijol” [likely *Phaseolus vulgaris* L.] (Fabaceae); Loganiaceae (genus not specified); *Gossypium* (Malvaceae); *Coffea* (Rubiaceae); *Sideroxylon* (Sapotaceae); and *Solanum lanceolatum* Cav. (Solanaceae) (Bechyné, 1997a, 1997b; Cañas Castro, 2000; Domínguez & Carrillo, 1976; Maes & Staines, 1991; Riley *et al.*, 2002; Zaragoza, 1966).

***Asphaera lustrans* (Crotch).** This species has been associated with *Scutellaria* (Lamiaceae) (Riley *et al.*, 2002; Thomas *et al.*, 2001). In previously unpublished investigations, we have collected adults of this beetle species, and larvae presumably belonging to this species, from *S. drummondii* Benth. in central Texas. Also, we have taken numerous adults and larvae that were feeding on *S. wrightii* Gray in an ornamental planting in northern Texas.

Beyond Lamiaceae, *A. lustrans* has been reported from lettuce [*Lactuca*] (Asteraceae), cowpea [*Vigna unguiculata* Clav.] (Fabaceae), cotton [*Gossypium*] (Malvaceae), corn [*Zea mays* L.] (Poaceae), peach [*Prunus persica* (L.) Batsch] (Rosaceae), *Salix* (Salicaceae), and eggplant [*Solanum melongena* L.] (Solanaceae) (Burke *et al.*, 1974; Mignot, 1970). However, at least some of these occurrences were almost certainly incidental.

***Aspidomorpha transparipennis* (Motschulsky).** A single specimen, probably belonging to this species, has been reported from North Carolina (Balsbaugh & Riley, 1980), but it is extremely doubtful that *A. transparipennis* is established there. A host in Asia is *Calystegia japonica* (Thunb.) Choisy (Convolvulaceae), and it is speculated that this species would feed on other convolvulaceous plants, such as *Convolvulus arvensis* L. and *Ipomoea batatas* (L.) Lam., if the beetles were to become established in North America (Balsbaugh & Riley, 1980).

In Asia, this species has also been reported from *Chenopodium* (Chenopodiaceae) (Balsbaugh & Riley, 1980). However, this occurrence may have been incidental.

***Aulacoscelis candezei* Chapuis.** Arnett (1962) reported that the two United States species of this genus feed on cycads [Cycadaceae]. However, native cycads do not occur in the part of the United States where these beetles are found. Moldenke (1971) reported *A. candezei* from Mexico on palm [Arecaceae]. Monrós (1954) collected a single specimen in New Mexico from the flowers of Asteraceae (genus not specified).

In previously unpublished investigations, we have collected a single adult from *Quercus* (Fagaceae) in western Texas. Additionally, we have seen specimens labeled from southeastern Arizona in association with *Q. hypoleuca* Engelm. [*Q. hypoleucoides* A. Camus].

***Aulacoscelis vogti* Monrós.** Arnett (1962) reported that the two United States species of this genus feed on cycads [Cycadaceae]. However, native cycads do not occur in the part of the United States where these beetles are found. Monrós (1959b) recorded *A. vogti* from flowers of *Hechtia texensis* S. Wats. (Bromeliaceae).

***Babia costalis* (Goersberg).** Leech & Green (1955) reported *B. humeralis* (Fabricius), a synonym of *B. costalis*, from Arizona in association with *Rubus neomexicanus* A. Gray (Rosaceae). However, this is a Mexican beetle species, generally not thought to occur in the United States, and this host association was likely based on misidentified insects.

***Babia quadriguttata* (Olivier).** This species has been recorded from *Yucca angustifolia* Pursh (Agavaceae); *Rhus glabra* L. (Anacardiaceae); *Asclepias* (Asclepiadaceae); *Acacia*, *Amorpha canescens* Pursh, *Cercis canadensis* L., *Desmodium*, *Prosopis*, *Robinia* (Fabaceae); *Quercus* (Fagaceae); *Hydrangea* (Hydrangeaceae); *Carya illinoensis* (Wangenh.) K. Koch, hickory [*Carya*], black walnut [*Juglans nigra* L.] (Juglandaceae); *Ceanothus americanus* L. (Rhamnaceae); meadowsweet [*Spiraea*] (Rosaceae); and prickly ash [*Zanthoxylum*] (Rutaceae) (Balsbaugh & Hays, 1972; Banks, 1912; Blatchley, 1910; Carr, 1988; Dillon

& Dillon, 1961; Douglass, 1929; Downie & Arnett, 1996; Furth, 1985; Harris, 1841, 1863; Hendrickson, 1928; Jaques, 1951; Johnson, 1916; Jolivet, 1978; Kirk & Balsbaugh, 1975; Lee, 1949; Moldenke, 1970; Pallister, 1953; Popenoe, 1877; Riley *et al.*, 2002; Schaeffer, 1928a; Smith, 1900, 1910a; Wickham, 1902; Wilcox, 1954, 1979). Additionally, Robertson (1929) recorded a species of *Babia* from Illinois in association with flowers of *Taenidia integerrima* (L.) Drude (Apiaceae). The only species of *Babia* occurring in or near Illinois is *B. quadriguttata*.

In previously unpublished field work in Missouri, we have seen adults of *B. quadriguttata* feeding on *Rhus copallina* L., *R. glabra* (Anacardiaceae); *Corylus americana* Walt. (Betulaceae); *Quercus velutina* Lam. (Fagaceae); *Carya cordiformis* (Wang.) K. Koch, *Juglans nigra* (Juglandaceae); and *Ceanothus americanus* (Rhamnaceae). Also in Missouri, we have found adults on *Rhus aromatica* Ait. (Anacardiaceae), *Polymnia canadensis* L. (Asteraceae), and *Symphoricarpos orbiculatus* Moench (Caprifoliaceae), but actual feeding was not observed. In western Texas, we have collected adults from *Ceanothus fendleri* A. Gray (Rhamnaceae).

***Babia tetraspilota* LeConte.** These insects have been associated with species of *Prosopis* (Fabaceae), including *P. juliflora* (Sw.) DC. [*P. glandulosa* J. Torr.] (Carr, 1988; Moldenke, 1970; Riley *et al.*, 2002). Additionally, Hespeneide (1996) indicated that the adult host of the subspecies *B. t. tetraspilota* is possibly *Robinia* (Fabaceae).

Beyond this, *B. tetraspilota* has been reported from *Ceanothus* (Rhamnaceae) (Carr, 1988). Also, Foster *et al.* (1981) found adults rarely on *Gutierrezia sarothrae* (Pursh) N. L. Britt. & Rusby (Asteraceae). These occurrences may have been incidental.

***Baliosus californicus* (Horn).** Recorded hosts are *Ceanothus fendleri* A. Gray and *C. integerrimus* Hook. & Arn. (Rhamnaceae) (Brisley, 1925; Carr, 1988; Chittenden, 1902b, 1904b; Doane *et al.*, 1936; Fall, 1901; Frost, 1924; Hopping, 1899; Jones & Brisley, 1925; Maulik, 1937; Needham *et al.*, 1928; Van Dyke, 1925a). In previously unpublished observations, we have associated beetles with *C. leucodermis* E. L. Greene.

***Baliosus nervosus* (Panzer).** Although *Tilia americana* L. (Tiliaceae) is the normal host, this beetle species has also been reported from *Acer rubrum* L., *A. saccharinum* L. (Aceraceae); *Alnus incana* (L.) Moench, *A. serrulata* (Ait.) Willd., *Betula lutea* Michx. f. [*B. alleghaniensis* Britt.], white birch [*B. papyrifera* Marsh.], *Carpinus caroliniana* Walt., English filbert [*Corylus avellana* L.], *Ostrya virginiana* (Mill.) K. Koch (Betulaceae); *Cornus* (Cornaceae); laurel [likely *Kalmia*] (Ericaceae); *Cercis canadensis* L., *Robinia pseudoacacia* L. (Fabaceae); *Castanea*, white oak [*Quercus alba* L.], *Quercus falcata* Michx., *Q. hemisphaerica* W. Bartram *ex* Willd., *Q. nigra* L., *Q. palustris* Muenchh., *Q. rubra* L., *Q. utahensis* Rydb., *Q. tinctoria* Michx. [*Q. velutina* Lam.] (Fagaceae); wax myrtle [*Myrica*] (Myricaceae); *Amelanchier canadensis* Medik., juneberry [*A. laevis* Wiegand], *Aronia arbutifolia* (L.) Pers., *Malus sylvestris* P. Mill., *Prunus virginiana* L., cherry [*Prunus*], blackberry [*Rubus*] (Rosaceae); *Citrus aurantium* L., *C. sinensis* (L.) Osbeck (Rutaceae); *Salix* (Salicaceae); *Solanum dulcamara* L. (Solanaceae); and *Ulmus* (Ulmaceae) (Anderson, 1960; Andrews, 1923; Anonymous, 1985; Arnett, 1985; Baker, 1972; Balsbaugh & Hays, 1972; Beutenmüller, 1890a; Blatchley, 1910, 1924a; Bray & Triplehorn, 1953; Brown, 1990; Buntin & Pedigo, 1982; Chagnon, 1938; Chagnon & Robert, 1962; Chambers, 1872; Chittenden, 1892, 1902b, 1904b; Clark, 2000; Cleveland & Hamilton, 1959; Comstock, 1925; Comstock *et al.*, 1931; Dearborn & Donahue, 1993; Dillon & Dillon, 1961; Downie & Arnett, 1996; Dozier, 1918, 1920; Edwards, 1949; Faeth & Simberloff, 1981; Faeth *et al.*, 1981; Felt, 1907; Ford & Cavey, 1985; Frost, 1924; Gibson, 1904; Hargrove, 1986; Hatch, 1924a; Herrick, 1935; Hodson, 1942; Hopkins, 1893; Houser, 1918; Hubbard, 1885; Jaques, 1951; Johnson & Lyon, 1991; Kirk, 1969, 1970; Knowlton, 1951b; Lee, 1949; Lugger, 1899; MacAloney, 1950; MacAloney & Ewan, 1964; Maulik, 1937; Morris, 1914a, 1914b; Needham *et al.*, 1928; Nicolay & Weiss, 1918; Packard, 1890; Papp, 1984; Peck & Thomas, 1998; Pirone, 1970; Raizenne, 1975; Riley & Enns, 1979; Riley & Fuller, 1880c; Robert, 1947; Ruesink, 1984; Smith, 1900, 1910a; Swan & Papp, 1972; Tanner, 1928; West & Lothian, 1948; Westcott, 1946; White, 1983; Wilcox, 1954, 1979).

In previously unpublished field work in Missouri, we have found adults feeding on *Quercus velutina* (Fagaceae) and *Ulmus americana* L. (Ulmaceae). Also in Missouri, we have seen adults on *Eupatorium rugosum* Houtt. (Asteraceae) and *Ulmus rubra* Muhl. (Ulmaceae), but actual feeding was not observed. In western Texas, we have collected adults from *Quercus gravesi* Sudw. (Fagaceae). Additionally, we have identified a long series of adults labeled as defoliating *Ulmus crassifolia* Nutt. (Ulmaceae) in Texas.

Wray & Brimley (1943) reported beetles from *Sarracenia flava* L. (Sarraceniaceae). However, this was probably an instance in which the insects were prey rather than herbivores.

This beetle species has also been recorded from *Glycine max* (L.) Merr., *Phaseolus lunatus* L., and *P. vulgaris* L. (Fabaceae) (Baldur, 1923; Buntin & Pedigo, 1982; Kogan & Kogan, 1979). However, as noted by Ruesink (1984), such reports were probably based on misidentified *Sumitrosis rosea* (Weber). Additionally, *B. nervosus* has been reported in association with *Eupatorium ageratoides* L. f., *Eurybia divaricata* (L.) Nesom, *Solidago latifolia* L., *Aster paniculatus* Lam. [*Symphotrichum lanceolatum* var. *lanceolatum* (Willd.)

Leaf Beetles and Associated Plants

Nesom], *Symphyotrichum novae-angliae* (L.) Nesom (Asteraceae); *Chamaecrista nictitans* (L.) Moench, *Robinia neomexicana* A. Gray, *R. pseudoacacia* (Fabaceae); and *Urtica gracilis* Ait. [*U. dioica* ssp. *gracilis* (Ait.) Seland.] (Urticaceae) (Andrews, 1923; Beutenmüller, 1890a; Buntin & Pedigo, 1982; Chittenden, 1902b, 1904b; Felt, 1912b; Frost, 1924; Garman, 1916; Hopkins, 1891a, 1891c, 1893; Ouellet, 1919; Smith, 1900, 1910a; Wheeler & Snook, 1986). These reports were probably also based on misidentified species of *Sumitrosis*.

***Bassareus brunnipes* (Olivier).** This species has been recorded from *Baccharis halimifolia* L., *Eupatorium* (Asteraceae); *Alnus* (Betulaceae); elderberry [*Sambucus*] (Caprifoliaceae); *Clethra* (Clethraceae); peanut [*Arachis hypogaea* L.] (Fabaceae); *Quercus virginiana* P. Mill. (Fagaceae); and cotton [*Gossypium*] (Malvaceae) (Balsbaugh & Hays, 1972; Blatchley, 1924a; Dozier, 1918, 1920; Erber, 1988; Folsom, 1936b; Kirk, 1969, 1970; Palmer & Bennett, 1988; Peck & Thomas, 1998; Smith, 1900, 1910a). Beyond this, Balsbaugh & Hays (1972) reported single specimens swept from *Diospyros* (Ebenaceae) and *Cephalanthus occidentalis* L. (Rubiaceae), but sweeping records should not necessarily be interpreted as host associations. In previously unpublished field work in Arkansas and Missouri, we have collected adults of *C. brunnipes* from *Amorpha fruticosa* L. (Fabaceae).

***Bassareus clathratus* (Melsheimer).** This species has been reported from alder [*Alnus*] (Betulaceae), *Clethra* (Clethraceae), and cotton [*Gossypium*] (Malvaceae) (Folsom, 1936a; Schaeffer, 1928a). It has also been collected by sweeping *Salix nigra* Marsh. (Salicaceae) (Riley & Enns, 1979).

***Bassareus croceipennis* LeConte.** This species has been reported from *Quercus* (Fagaceae) (Blatchley, 1914, 1924a; Peck & Thomas, 1998).

***Bassareus detritus* (Olivier).** This species has been collected by beating Spanish moss [*Tillandsia usneoides* (L.) L.] (Bromeliaceae) (Blatchley, 1924a). It has also been reported from New Jersey on leaves of oak [*Quercus*] (Fagaceae) and *Ceanothus americanus* L. (Rhamnaceae) (Chittenden, 1892; Felt, 1907; Smith, 1900, 1910a). However, New Jersey is beyond the generally reported range of this southeastern species (a record from Ohio is very doubtful), and these associations may have been based on misidentified beetles.

***Bassareus formosus* (Melsheimer).** This species has been recorded in association with *Rhus* (Anacardiaceae); alder [*Alnus*] (Betulaceae); *Sambucus* (Caprifoliaceae); *Chamaedaphne calyculata* (L.) Moench, *Vaccinium pensylvanicum* Lam. [*V. angustifolium* Benth.] (Ericaceae); fir [*Abies*], pine [*Pinus*] (Pinaceae); *Rubus* (Rosaceae); willow [*Salix*] (Salicaceae); and grape [*Vitis*] (Vitaceae) (Andrews, 1923; Beutenmüller, 1890a; Blatchley, 1910; Chagnon, 1937; Chagnon & Robert, 1962; Clark, 2000; Dearborn & Donahue, 1993; Downie & Arnett, 1996; Hamilton, 1895; Judd, 1960; Phipps, 1930; Proctor, 1938, 1946; Smith, 1900, 1910a; Wilcox, 1979). Additionally, Webster (1881) included the synonym *Cryptocephalus sulphuripennis* Melsheimer in a list of chrysomelids collected from either *Salix discolor* Muhl. or *S. petiolaris* J. E. Sm. (Salicaceae).

***Bassareus lituratus* (Fabricius).** This species has been reported from fern [Pteridophyta]; dwarf huckleberry [*Gaylussacia dumosa* (Andr.) Torr. & Gray] (Ericaceae); *Desmodium* (Fabaceae); oak [*Quercus*] (Fagaceae); *Carya* (Juglandaceae); *Pycnanthemum* (Lamiaceae); buttonwood [*Platanus occidentalis* L.] (Platanaceae); oats [*Avena*], wheat [*Triticum*] (Poaceae); Jersey tea [*Ceanothus americanus* L.] (Rhamnaceae); yellow puccoon [*Hydrastis canadensis* L.] (Ranunculaceae); and *Rubus* (Rosaceae) (Anonymous, 1985; Baker, 1972; Blatchley, 1910, 1924a; Downie & Arnett, 1996; Flowers *et al.*, 1994; Kirk, 1969; MacAloney, 1950; Peck & Thomas, 1998; Riley & Enns, 1979; Wilcox, 1979). Additionally, Webster (1881) included it in a list of chrysomelids observed on either *Salix discolor* Muhl. or *S. petiolaris* J. E. Sm. (Salicaceae). This beetle species has also been collected by sweeping natal grass [*Rhynchelytrum repens* (Willd.) C. E. Hubb.] (Poaceae) (Blatchley, 1924a; Flowers *et al.*, 1994).

Wray & Brimley (1943) reported the synonym *Bassareus lativittis* (Germar) from *Sarracenia flava* L. (Sarraceniaceae). However, this was probably an instance in which the insects were prey rather than herbivores.

Wickham (1896b) reported "*Pachybrachys lituratus* Fabr." from Arizona in association with willow [*Salix*] (Salicaceae). Presumably, *B. lituratus* was intended. If so, this record was probably based on misidentification, Arizona being well beyond the generally recognized range of *B. lituratus*.

In previously unpublished investigations, we have seen specimens of *B. lituratus* that were beaten from *Conocarpus erectus* L. (Combretaceae) in Florida. Additionally, in field work conducted in Missouri, we have found adults feeding on *Lespedeza virginica* (L.) Britt. and *Tephrosia virginiana* (L.) Pers. (Fabaceae). Also in Missouri, we have found adults on *Desmodium canescens* (L.) DC. (Fabaceae), and captive beetles fed on this plant.

***Bassareus mammifer* (Newman).** This species has been reported from *Rhus glabra* L. (Anacardiaceae); hazel [*Corylus*] (Betulaceae); *Cercis canadensis* L., yellow locust [*Robinia pseudoacacia* L.] (Fabaceae); *Ribes* (Grossulariaceae); hickory [*Carya*], *Juglans regia* L. (Juglandaceae); fir [*Abies*], spruce [*Picea*], pitch pine [*Pinus rigida* P. Mill.] (Pinaceae); *Ceanothus americanus* L. (Rhamnaceae); *Rubus* (Rosaceae); poplar

[*Populus*], willow [*Salix*] (Salicaceae); basswood [*Tilia*] (Tiliaceae); and elm [*Ulmus*] (Ulmaceae) (Banks, 1912; Barrett, 1932; Beutenmüller, 1890a; Blatchley, 1910; Chagnon, 1917, 1937; Chagnon & Robert, 1962; Clark, 2000; Dearborn & Donahue, 1993; Felt, 1907; Hamilton, 1895; Harrington, 1883; Hopkins, 1893; Lee, 1949; Morris, 1914a, 1914b; Riley & Enns, 1979; Smith, 1900, 1910a; Webster, 1893a; Wilcox, 1979).

In previously unpublished investigations in Missouri, we have found an adult of this beetle species on insect-damaged leaves of *Amorpha fruticosa* L. (Fabaceae). Also in Missouri, we have found an adult on *Helianthus strumosus* L. (Asteraceae), and some feeding occurred when the beetle was confined together with the plant.

***Blepharida rhois* (Forster).** This species is associated with Anacardiaceae, having been recorded from *Cotinus coggygia* Scop., *C. obovatus* Raf., *Rhus aromatica* Ait., *R. canadensis* Marsh., *R. copallina* L., *R. glabra* L., *R. microphylla* Englem. ex A. Gray, *R. trilobata* Nutt. ex Torr. & A. Gray, *R. typhina* L., *Schinus terebinthifolius* Raddi, and *Toxicodendron vernix* (L.) Kuntze (Abdullah & Qureshi, 1969; Anonymous, 1965d, 1965h; Balsbaugh & Hays, 1972; Beutenmüller, 1890a; Blatchley, 1910, 1924a; Brimley, 1938; Brisley, 1925; Clark, 2000; Cranshaw, 1992; Cranshaw *et al.*, 2000; Dillon & Dillon, 1961; Douglass, 1929; Downie & Arnett, 1996; Dozier, 1918, 1920, 1922; Duckett, 1920; Fall & Cockerell, 1907; Felt, 1907; Forster, 1771; Frost, 1972, 1973; Furth, 1982, 1985, 1998; Furth & Lee, 2000; Furth & Young, 1988; Hamilton, 1895; Hicks, 1955b; Hopkins, 1893; Jaques, 1951; Kirk, 1969, 1970; Kirk & Balsbaugh, 1975; Lawson, 1991; Lee, 1999; Levan *et al.*, 1963; Löding, 1945; Lugger, 1899; MacAloney, 1950; McDaniel *et al.*, 1992; Mignot, 1971b; Morris, 1914a, 1914b, 1916; Müller & Hilker, 2003; Munson *et al.*, 1962a; Pallister, 1953; Peck & Thomas, 1998; Peterson, 1960; Raizenne, 1975; Riley, 1869a, 1870c, 1874b; Riley & Enns, 1979; Riley *et al.*, 2002; Smith, 1900, 1910a, 1943; Strauss, 1988; Stirrett, 1924; Ulke, 1903; Vencel & Morton, 1998b, 1999; Vestal, 1913; Walsh, 1866c; Walsh & Riley, 1868a, 1869e; Whelan, 1936; White, 1983; Wilcox, 1954, 1979).

Additionally, *B. rhois* has been reported from *Catharanthus roseus* (L.) G. Don (Apocynaceae), *Asclepias syriaca* L. (Asclepiadaceae), *Solidago rigida* L. (Asteraceae), *Ribes* (Grossulariaceae), *Pinus palustris* P. Mill. (Pinaceae), grass [Poaceae], and strawberry [*Fragaria*] (Rosaceae) (Cranshaw, 1992; Cranshaw *et al.*, 2000; Dailey *et al.*, 1978; Frost, 1972, 1973; Mignot, 1971b; Whelan, 1936). However, these occurrences were probably incidental.

Under experimental conditions, larvae of *B. rhois* have fed on lettuce [*Lactuca*] (Asteraceae) (Vencel & Morton, 1998b). Even so, this plant is not a natural host.

***Brachycoryna dolorosa* Van Dyke.** Adults have been collected from *Artemisia*, *Hemizonia*, *Holocarpa heermannii* (Greene) Keck, *Madia elegans* D. Don ex Lindl., *M. sativa* Mol. (Asteraceae); and *Ceanothus cuneatus* (Hook.) Nutt. (Rhamnaceae) (Carr, 1988; Staines, 1986c; Van Dyke, 1925a).

***Brachycoryna hardyi* (Crotch).** This species, including larvae, has been associated with *Ceanothus leucodermis* E. L. Greene, *C. sanguineus* Pursh, and *C. velutinus* Dougl. ex Hook. (Rhamnaceae) (Carr, 1988; Doane *et al.*, 1936; Grant, 1969; Staines, 1986c; Van Dyke, 1925a).

***Brachycoryna longula* Weise.** This species has been recorded from Asteraceae, including *Franseria dumosa* A. Gray and *Hymenoclea monogyra* J. Torr. & Gray ex A. Gray (Noguera, 1988; Staines, 1986c).

***Brachycoryna melsheimeri* (Crotch).** One specimen was found resting on a leaf of *Erigeron* (Asteraceae), but it was not thought to be feeding (Riley & Enns, 1979; Staines, 1986c). Additionally, *B. melsheimeri* has been reported from *Ceanothus* (Rhamnaceae) (Carr, 1988; Fall, 1901; Hopping, 1899), but this association was made in California and was therefore probably based on some species other than true *B. melsheimeri*. Beyond this, Townsend (1902) recorded "*Microrhopala*, sp., probably *melsheimeri*, Cr." from *Allowissadula holosericea* (Scheele) D. M. Bates (Malvaceae).

***Brachycoryna montana* (Horn).** Adults have been collected from *Artemisia tridentata* Nutt. (Asteraceae) (Staines, 1986c).

***Brachycoryna pumila* Guérin-Ménéville.** Larval hosts are reported to be *Malvastrum americanum* (L.) J. Torr., *M. coromandelianum* (L.) Garcke, *Sida rhombifolia* L., and *S. spinosa* L. (Malvaceae) (Staines, 1986c). Additionally, this species, including populations in Latin America, has been reported from *Baccharis thesioides* Kunth (Asteraceae); *Phaseolus vulgaris* L. (Fabaceae); *Monarda citriodora* Cerv. ex Lag. (Lamiaceae); *Abelmoschus esculentus* (L.) Moench, *Abutilon americanum* Panz., *A. lignosum* (Cav.) D. Don, *A. peduncularae* Kunth, *Alcea rosea* L., *Allowissadula holosericea* (Scheele) D. M. Bates, *Gossypium*, *Malvastrum coromandelianum*, *M. spicatum* (L.) A. Gray, *M. wrightii* Gray, *Sida cordifolia* L., *S. angustifolia* Lam. [*S. spinosa*] (Malvaceae); *Zea* (Poaceae); and *Waltheria americana* L. (Sterculiaceae) (Maes & Staines, 1991; Moldenke, 1971; Moreno & Bibby, 1943; Noguera, 1988; Staines, 1986c, 1996; Townsend, 1902).

In previously unpublished investigations, we have collected adults of *B. pumila* from *Malvastrum aurantiacum* (Scheele) Walp. (Malvaceae) in east-central Texas.

***Brachypnoea clypealis* (Horn).** This species is frequently associated with Asteraceae, having been

reported from *Ambrosia artemisiifolia* L., *A. trifida* L., chrysanthemum [*Chrysanthemum* or a similar genus], dahlia [*Dahlia*], *Eupatorium capillifolium* (Lam.) Small, sunflower [*Helianthus*], *Verbesina alternifolia* (L.) Britt. ex Kearney, and zinnia [*Zinnia*] (Chittenden, 1897a, 1899b; Clark, 2000; Flowers *et al.*, 1994; Harris & Piper, 1970; Kirk, 1969; Kirk, 1970; Peck & Thomas, 1998; Riley & Enns, 1979; Schultz, 1970; Wilcox, 1979). In previously unpublished field work in Missouri we have found adults feeding on leaves *Rudbeckia triloba* L. and *Symphotrichum lateriflorum* (L.) A. & D. Löve.

Beyond Asteraceae, *B. clypealis* has been collected from *Amaranthus spinosus* L. (Amaranthaceae); *Daucus carota* L. (Apiaceae); *Cannabis sativa* L. (Cannabaceae); *Desmodium*, clover [likely *Trifolium*], horse bean [*Vicia faba* L.] (Fabaceae); wild hydrangea [*Hydrangea*] (Hydrangeaceae); and *Vitis rotundifolia* Michx. (Vitaceae) (Balsbaugh Hays, 1972; Lago & Mann, 1987; Lago & Stanford, 1989; McGiffin & Neunzig, 1985; Rouse & Medvedev, 1972; Schultz, 1970). This beetle species has also been swept from soybean [*Glycine max* (L.) Merr.] (Fabaceae) and Johnson grass [*Sorghum halepense* (L.) Pers.] (Poaceae) (Kirk, 1970). Bickenstaff & Huggans (1962) included *B. clypealis* in a list of insects collected from soybean fields [*Glycine max*], but this should not necessarily be interpreted as a host association.

***Brachypnoea convexa* (Say).** This species has been reported in association with *Zizia aurea* (L.) W. D. J. Koch (Apiaceae); *Ambrosia trifida* L., *Erigeron ramosus* Raf., *Lepachys* [*Ratibida*], *Rudbeckia*, *Solidago* (Asteraceae); and corn [*Zea mays* L.] (Poaceae) (Blatchley, 1910; Downie & Arnett, 1996; Hamilton, 1895; Harris & Piper, 1970; Hendrickson, 1930b; Horn, 1892; Kovalev, 1971; Riley & Enns, 1979; Schultz, 1970; Smith, 1900, 1910a; Wilcox, 1979). Additionally, Webster (1881) included *B. convexa* in a list of chrysomelids collected from either *Salix discolor* Muhl. or *S. petiolaris* J. E. Sm. (Salicaceae).

***Brachypnoea lecontei* Riley, Clark, & Seeno.** In previously unpublished field work in central Texas, we have collected numerous adults from *Quercus fusiformis* Small (Fagaceae). The beetles were very abundant and could be found on many plant species in the general vicinity, but they showed a clear preference for this species of oak. Additionally, we have identified a series of this beetle species that was collected by Thomas O. Robbins from *Ceanothus herbaceus* Raf. (Rhamnaceae) in central Texas.

***Brachypnoea margaretae* (Schultz).** This species has been recorded from *Ambrosia*, *Euthamia graminifolia* (L.) Nutt., *Solidago altissima* L., *S. gigantea* Ait., *S. juncea* Ait., *S. rugosa* P. Mill. (Asteraceae); *Polygonum* (Polygonaceae); Jersey tea [*Ceanothus americanus* L.] (Rhamnaceae); blackberry [*Rubus*] (Rosaceae); and *Salix* (Salicaceae) (Messina & Root, 1980; Schultz, 1970, 1980).

In previously unpublished investigations, we have collected adults from *Kalmia latifolia* L. (Ericaceae) in North Carolina. In Wisconsin, Andrew H. Williams (pers. comm.) has found many adults on *Monarda fistulosa* L. (Lamiaceae) and on flowers of *Rosa* (Rosaceae).

***Brachypnoea puncticollis* (Say).** This species has been reported from red maple [*Acer rubrum* L.] (Aceraceae); *Rhus* (Anacardiaceae); *Apocynum androsaemifolium* L. (Apocynaceae); common milkweed [*Asclepias syriaca* L.] (Asclepiadaceae); pasture thistle [*Cirsium pumilum* (Nutt.) Spreng.], *Eupatorium capillifolium* (Lam.) Small, *Hieracium aurantiacum* L., *H. pratense* Tausch. [*H. caespitosum* Dumort.], king devil hawkweed [*H. piloselloides* Vill.], golden ragwort [*Senecio aureus* L.], goldenrod [*Solidago*] (Asteraceae); *Alnus incana* (L.) Moench, *Betula* (Betulaceae); *Cornus alternifolia* L. f., *C. paniculata* L'Her. [*C. racemosa* Lam.], *C. stolonifera* Michx. [*C. sericea* L.] (Cornaceae); *Amorpha canescens* Pursh, *Gleditsia triacanthos* L., lespedeza [*Lespedeza*], sweetclover [*Melilotus*], black locust [*Robinia pseudoacacia* L.], *Trifolium agrarium* L. [*T. aureum* Pollich], alsike clover [*T. hybridum* L.], red clover [*T. pratense* L.], white clover [*T. repens* L.] (Fabaceae); Japanese chestnut [*Castanea crenata* Sieb. & Zucc.], white oak [*Quercus alba* L.], black oak [*Quercus velutina* Lam.] (Fagaceae); iris [*Iris*] (Iridaceae); black walnut [*Juglans nigra* L.], English walnut [*Juglans regia* L.] (Juglandaceae); cotton [*Gossypium*], hibiscus [*Hibiscus*] (Malvaceae); peony [*Paeonia*] (Paeoniaceae); pokeweed [*Phytolacca americana* L.] (Phytolaccaceae); English plantain [*Plantago lanceolata* L.] (Plantaginaceae); corn [*Zea mays* L.] (Poaceae); dock [*Rumex*] (Polygonaceae); New Jersey tea [*Ceanothus americanus* L.] (Rhamnaceae); *Fragaria*, white avens [*Geum canadense* Jacq.], apple [*Malus sylvestris* P. Mill.], *Potentilla canadensis* L., rough cinquefoil [*P. norvegica* L.], peach [*Prunus persica* (L.) Batsch], chokecherry [*Prunus virginiana* L.], cherry [*Prunus*], plum [*Prunus*], pear [*Pyrus*], *Rosa humilis* Marsh., *Rubus*, *Spiraea salicifolia* L. (Rosaceae); weeping willow [*Salix babylonica* L.], pussy willow [*Salix discolor* Muhl. or *S. humilis* Marsh.], black willow [*Salix nigra* Marsh.] (Salicaceae); basswood [*Tilia*] (Tiliaceae); hackberry [*Celtis*], American elm [*Ulmus americana* L.] (Ulmaceae); Virginia creeper [*Parthenocissus*] and *Vitis rotundifolia* Michx. (Vitaceae) (Anonymous, 1955d, 1960u; Banks, 1912; Blackman, 1918; Blatchley, 1910; Bray & Triplehorn, 1953; Burbutis, 1963f; Carr, 1920; Chagnon, 1937; Chagnon & Robert, 1962; Chittenden, 1897a, 1899b; Dearborn & Donahue, 1993; Douglass, 1929; Downie & Arnett, 1996; Felt, 1907; Flowers *et al.*, 1994; Furth, 1985; Gittins, 1959; Hamilton, 1895; Hatch, 1971; Hendrickson, 1928, 1930b; Herrick, 1935; Hoffman, 1942; Hopkins, 1893; Horn, 1892; Kirk, 1970; Lovell, 1915; Lugger, 1899; MacAloney, 1950; McDowell, 1955, 1960; McGiffin & Neunzig, 1985; Milliron, 1958; Papp,

1984; Peck & Thomas, 1998; Peterson, 1960; Riley & Enns, 1979; Rouse & Medvedev, 1972; Schultz, 1970; Scott *et al.*, 1932; Skinner, 1909; Smith, 1900, 1910a, 1967; Stear, 1920; Steiner & Chapman, 1937; Swan & Papp, 1972; Weigel & Baumhofer, 1948; Weiss & West, 1922; Westcott, 1946; Wilcox, 1954, 1979; Wood, 1940; Wood & Worthley, 1937).

Also, Bray & Triplehorn (1953) included this beetle species in a list of insects associated with either *Quercus palustris* Muenchh. or *Q. rubra* L. (Fagaceae). Webster (1881) included it in a list of chrysomelids observed on either *Salix discolor* or *S. petiolaris* J. E. Sm. (Salicaceae).

***Brachypnoea rotundicollis* (Schaeffer).** This species has been recorded from *Baccharis neglecta* Britt. (Asteraceae) (Boldt & Robbins, 1987; Palmer, 1987; Riley *et al.*, 2002). Additionally, Schultz (1970) reported material labeled from carrot [*Daucus carota* L.] (Apiaceae), bean [likely *Phaseolus vulgaris* L.] (Fabaceae), and tomato [*Lycopersicon esculentum* Mill.] (Solanaceae), but he suspected that these plants were not true hosts.

Records maintained by the USDA-ARS Grassland, Soil and Water Research Laboratory state that adults of *B. rotundicollis* in Texas have been “collected by hand or swept from foliage or feeding on leaves” of *Baccharis halimifolia* L., *B. neglecta*, and *B. sarothroides* A. Gray (Asteraceae) (Thomas O. Robbins, pers. comm.).

***Brachypnoea texana* (Schaeffer).** This species has been reported from *Baccharis neglecta* Britt. (Asteraceae), *Juniperus mexicanus* Schltdl. & Cham. [*J. deppeana* Steud.] (Cupressaceae), and *Quercus* (Fagaceae) (Palmer, 1987; Schultz, 1970). In previously unpublished field work, we have collected adults from *Quercus buckleyi* Nixon & Dorr and *Q. fusiformis* Small (Fagaceae) in central Texas.

***Brachypnoea tristis* (Olivier).** This species has been reported from *Acer negundo* L. (Aceraceae); *Amaranthus spinosus* L. (Amaranthaceae); *Daucus carota* L. (Apiaceae); *Ambrosia psilostachya* DC., *Baccharis neglecta* Britt., dahlia [*Dahlia*], *Gaillardia pulchella* Foug., “*Helianthus vigidus*” [likely either *H. virgatus* Lam. (= *H. giganteus* L.) or *H. virilis* E. Watson], *Tanacetum parthenium* (L.) Schultz-Bip., zinnia [*Zinnia*] (Asteraceae); bloodweed [*Plagiobothrys arizonicus* (A. Gray) E. L. Greene ex A. Gray] (Boraginaceae); *Opuntia* (Cactaceae); *Cannabis sativa* L. (Cannabaceae); acacia [*Acacia*], *Cercis canadensis* L., *Desmodium*, *Gleditsia triacanthos* L., soybean [*Glycine max* (L.) Merr.], *Lespedeza*, yellow locust [*Robinia pseudoacacia* L.] (Fabaceae); *Quercus palustris* Muenchh., *Q. rubra* L. (Fagaceae); pecan [*Carya illinoensis* (Wang.) K. Koch] (Juglandaceae); *Callirhoe involucrata* (J. Torr. & A. Gray) A. Gray, cotton [*Gossypium*] (Malvaceae); Bermuda grass [*Cynodon dactylon* (L.) Pers.] (Poaceae); *Ceanothus* (Rhamnaceae); *Amelanchier canadensis* Medik., apple [*Malus sylvestris* P. Mill.], *Prunus americana* Marsh., *P. angustifolia* Marsh., peach [*P. persica* (L.) Batsch], chokecherry [*P. virginiana* L.], cherry [*Prunus*], pear [*Pyrus*], blackberry [*Rubus*], dewberry [*Rubus*] (Rosaceae); pussy willow [*Salix discolor* Muhl. or *S. humilis* Marsh.], *Salix interior* Rowlee [*S. exigua* ssp. *interior* (Rowlee) Cronquist] (Salicaceae); *Celtis*, elm [*Ulmus*] (Ulmaceae); grape [*Vitis*] (Vitaceae); and “*Prosomia*” (Ashmead, 1894; Balsbaugh & Hays, 1972; Boldt & Robbins, 1987; Bray & Triplehorn, 1953; Chittenden, 1897a, 1899b; Essig, 1958; Felt, 1907; Folsom, 1936a; Hamilton, 1895; Hoffman, 1942; Hopkins, 1893; Horn, 1892; Hunter *et al.*, 1912; Jackman, 1978a; Kirk, 1970; Lago & Mann, 1987; Lago & Stanford, 1989; Lee, 1949; Lugger, 1899; Nettles, 1961a; Packard, 1890; Palmer, 1987; Riley & Enns, 1979; Rouse & Medvedev, 1972; Schwarz, 1883; Schultz, 1970; Slingerland & Crosby, 1915; Smith, 1900, 1910a; Wood, 1940).

In previously unpublished investigations, we have collected *B. tristis* in Missouri from *Amorpha canescens* Pursh (Fabaceae). Additionally, we have identified a small series (five adults) labeled from West Virginia in association with *Corylus americana* Walt. (Betulaceae). Records maintained by the USDA-ARS Grassland, Soil and Water Research Laboratory state that adults in Texas have been swept from foliage or flower heads of *Carduus macrocephalus* Desf. [*C. nutans* L.] and *Cirsium texanum* Buckl. (Asteraceae) (Thomas O. Robbins, pers. comm.).

Until recently, this beetle species was not separated from *Brachypnoea lecontei* Riley, Clark, & Seeno. A few of the above-listed associations may have been based on that species.

***Bromius obscurus* (Linnaeus).** These insects, including populations in the Palearctic Region, have been associated with *Chamerion angustifolium* (L.) Holub and *Epilobium hirsutum* L. (Onagraceae), as well as with Virginia creeper [*Parthenocissus*] and *Vitis vinifera* L. (Vitaceae) (Bechyné, 1956; Beller & Hatch, 1932; Beutenmüller, 1890a; Borror *et al.*, 1989; Branigan, 1912; Bruner, 1895; Carr, 1988; Chagnon, 1917, 1937; Chagnon & Robert, 1962; Chamberlin, 1949; Clark, 2000; Cox, 1996; Davidson & Lyon, 1987; Dillon & Dillon, 1961; Doane *et al.*, 1936; Downie & Arnett, 1996; Ebeling, 1959; Essig, 1913, 1915b, 1958; Essig & Hoskins, 1944; Felt, 1907; Furth, 1995; Hatch, 1971; Horne & Essig, 1921; Jaques, 1951; Johnson & Hammar, 1910; Jolivet & Verma, 2002; Lopatin, 1984; Lugger, 1899; Mohr, 1966; Papp, 1984; Peterson & Schalk, 1994; Riley & Howard, 1891a; Riley *et al.*, 2002; Quayle, 1908a, 1908b, 1938; Sanderson & Peairs, 1931; Schultz, 1970; Slingerland & Crosby, 1915; Smith, 1900; Swan & Papp, 1972; Vig, 1996, 1997; Web-

Leaf Beetles and Associated Plants

ster, 1894, 1895a; Westcott, 1946; Wilcox, 1954, 1979). The synonym *Adoxus vitis* (Kirby) has been reported from “Virginia creeper (*Ampelopsis*)” [almost certainly *Parthenocissus* rather than *Ampelopsis*] (Vitaceae) (Beutenmüller, 1890a). Although *B. obscurus* is known as a pest of *Vitis* in California, the normal host throughout much of the North American range is *Chamerion*.

This beetle species has also been reported from *Alnus*, *Betula*, *Corylus rostrata* Ait. [*C. cornuta* Marsh.] (Betulaceae); dogwood [*Cornus*] (Cornaceae); clover [likely *Trifolium*] (Fabaceae); fir [*Abies*], larch [*Larix*], spruce [*Picea*], pine [*Pinus*] (Pinaceae); *Rubus* (Rosaceae); and *Salix* (Salicaceae) (Andrews, 1923; Carr, 1920, 1988; Dearborn & Donahue, 1993; Harrington, 1883; Hatch, 1924a; Morris, 1914a, 1914b; Quayle, 1938; Schultz, 1970). However these occurrences were probably incidental. Boiteau (1983a) included *B. obscurus* in a list of insects collected from potato fields [*Solanum tuberosum* L.] (Solanaeae), but this should not be interpreted as a host association.

Branigan (1912) reported damage in California to *Darmera peltata* (Torr. ex Benth.) Voss (Saxifragaceae) and concluded that *B. obscurus* was the insect species responsible. However, he did not actually find insects on the plants. Additionally, Carr (1988) and Essig (1915b, 1958) reported *D. peltata* to be a host, but this association may have been extrapolated from Branigan’s observation.

***Brontispa chalybeipennis* (Zacher).** This species, adventive in Hawaii, is associated with species of Arecaceae, including *Cocos nucifera* L. (Beardsley, 1986; Heu, 1986; Jolivet, 2001).

***Brucita marmorata* (Jacoby).** This species feeds on *Ehretia anacua* (Terán & Berland.) I. M. Johnst. (Boraginaceae) (Riley *et al.*, 2002). It has also been reported from palmetto [*Sabal*, *Serenoa*, or a similar genus] (Arecaceae), *Erythrina* (Fabaceae), and elm [*Ulmus*] (Ulmaceae) (Townsend, 1902). However, these occurrences were probably adventitious.

***Cadiz hardyi* Andrews & Gilbert.** Both adults and larvae have been found on skeletonized leaves of *Tiquilia plicata* (Torr.) A. Richards (Boraginaceae), and larvae have been observed feeding on this plant (Andrews & Gilbert, 1992; Jolivet & Hawkeswood, 1995; Riley *et al.*, 2002).

***Calligrapha alni* Schaeffer.** Hosts are species of *Alnus* (Betulaceae), including *Alnus incana* (L.) Moench (Brown, 1945, 1964; Cavey, 1994; Chagnon, 1938; Chagnon & Robert, 1962; Dearborn & Donahue, 1993; Downie & Arnett, 1996; Proctor, 1938, 1946; Raizenne, 1975; Robertson, 1966; Schaeffer, 1928c; Wilcox, 1954, 1972, 1979). Cavey (1994) reported a specimen that was collected by “sweeping an area plentiful with *Alnus serrulata* (Ait.) Willd.”

This beetle species has also been reported from birch [*Betula*] (Betulaceae); cedar [*Chamaecyparis*, *Juniperus*, *Thuja*, or a similar genus] (Cupressaceae); fir [*Abies*], spruce [*Picea*], hemlock [*Tsuga*] (Pinaceae); and wild rice [*Zizania*] (Poaceae) (Cavey, 1994; Dearborn & Donahue, 1993). However, these occurrences were probably either adventitious or based on misidentification.

***Calligrapha alnicola* Brown.** This species feeds on *Alnus incana* (L.) Moench (Betulaceae) (Brown, 1945, 1964; Downie & Arnett, 1996; Raizenne, 1975; Robertson, 1966; Wilcox, 1972, 1979).

***Calligrapha amator* Brown.** The food plant is *Tilia americana* L. (Tiliaceae) (Brown, 1945, 1958, 1964; Clark, 2000; Downie & Arnett, 1996; Raizenne, 1975; Robertson, 1966; Wilcox, 1972, 1979). Under experimental conditions, larvae have accepted elm leaves [*Ulmus*] (Ulmaceae), but growth was poor, with adult production being seriously reduced (Robertson, 1966).

***Calligrapha amelia* Knab.** These insects have been associated with species of *Alnus* (Betulaceae), including *A. rugosa* (Du Roi) Spreng. [*A. incana* ssp. *rugosa* (Du Roi) Clausen] (Balsbaugh & Hays, 1972; Clark, 2000; Downie & Arnett, 1996; Knab, 1909a; Smith, 1910a; Wilcox, 1954, 1972, 1979).

***Calligrapha apicalis* Notman.** Hosts are reported to be species of *Alnus* (Betulaceae), including *Alnus incana* (L.) Moench (Brown, 1945; Downie & Arnett, 1996; Gómez-Zurita *et al.*, 2004; Raizenne, 1975; Robertson, 1966; Wilcox, 1972, 1979).

***Calligrapha bidenticola* Brown.** Hosts are Asteraceae, including *Ambrosia artemisiifolia* L., *Bidens cernua* L., *B. frondosa* L., *Coreopsis aristosa* Michx., and *C. lanceolata* L. (Balsbaugh & Hays, 1972; Beutenmüller, 1890a; Blatchley, 1924a; Brown, 1945; Clark, 2000; Clark & Cavey, 1995; Coquillett, 1883; Downie & Arnett, 1996; Hamilton, 1895; Harris & Piper, 1970; Kovalev, 1971; Monrós, 1955; Riley & Enns, 1979; Robertson, 1894b, 1966; Smith, 1900, 1910a; Wilcox, 1954, 1972, 1979).

This beetle species has also been recorded from *Commelina* (Commelinaceae), fir [*Abies*] (Pinaceae), and *Rubus* (Rosaceae) (Dearborn & Donahue, 1993; Riley & Enns, 1979; Rouse & Medvedev, 1972), but these occurrences were probably incidental. Beetles have also been swept from *Cornus* (Cornaceae) and wild rose [*Rosa*] (Rosaceae) (Balsbaugh & Hays, 1972; Proctor, 1938, 1946), but sweeping records should not necessarily be interpreted as host associations.

***Calligrapha californica* Linell.** These insects are associated with Asteraceae, having been reported from *Ambrosia trifida* L., *Bidens cernua* L., *B. frondosa* L., *B. laevis* (L.) B.S.P., *Coreopsis lanceolata* L., *C. tinctoria* Nutt., dahlia [*Dahlia*], boneset [*Eupatorium perfoliatum* L.], *Solidago*, and marigold [*Tagetes*] (An-

draws, 1923; Blatchley, 1910; Brown, 1945; Carr, 1988; Caulfield, 1886a; Clark & Cavey, 1995; Dearborn & Donahue, 1993; Dillon & Dillon, 1961; Downie & Arnett, 1996; Gibson, 1928; Harris & Piper, 1970; Hatch, 1971; Johnson, 1927; Kovalev, 1971; Papp, 1959; Powell, 1932; Proctor, 1938, 1946; Robertson, 1966; Smith, 1900, 1910a; Wilcox, 1954, 1972, 1979; Williams, 1989a).

This beetle species has also been reported from *Bupleurum rotundifolium* L. (Apiaceae); arrowhead [*Sagittaria*] (Alismataceae); fir [*Abies*], spruce [*Picea*] (Pinaceae); water smartweed [*Polygonum amphibium* L.] (Polygonaceae); and willow [*Salix*] (Salicaceae) (Andrews, 1923; Carr, 1988; Dearborn & Donahue, 1993; Morris, 1914a, 1914b; Wickham, 1890a, 1896a). However, these associations were probably either incidental or based on misidentification. Boiteau (1983a) included *C. californica* in a list of insects collected from potato fields [*Solanum tuberosum* L.] (Solanaceae), but this should not be interpreted as a host association.

In addition to the previously mentioned associations, Judd (1961) recorded “*Coreopsomela* sp.” from *Symplocarpus foetidus* (L.) W. Salisb. (Araceae). Although *Coreopsomela* is now considered to be a synonym of the subgenus *Bidensomela* Monrós of the genus *Calligrapha*, at the time of Judd’s report it was ranked at the generic level. In the former sense, this taxon included only a single species, *C. bidenticola*. Notwithstanding, the occurrence on *Symplocarpus* was certainly adventitious.

***Calligrapha cephalanthi* (Schwarz).** This species is reported to occur on *Cephalanthus occidentalis* L. (Rubiaceae) (Blatchley, 1923, 1924a; Clark & Cavey, 1995; Peck & Thomas, 1998; Schwarz, 1878; Wilcox, 1972).

***Calligrapha confluens* Schaeffer.** Hosts are species of *Alnus* (Betulaceae), including *A. glutinosa* (L.) P. Gaertn. and *A. incana* (L.) Moench (Brown, 1945; Chagnon, 1938; Chagnon & Robert, 1962; Clark, 2000; Downie & Arnett, 1996; Raizenne, 1975; Robertson, 1966; Wheeler & Hoebeke, 1979; Wilcox, 1972, 1979). Beetles have also been collected from *Crataegus* (Rosaceae) (Clark, 2000), but this is probably not a food plant.

***Calligrapha dislocata* (Rogers).** This species is associated with Malvaceae. In the United States, it has been recorded from *Malvastrum* and *Sphaeralcea angustifolia* (Cav.) Don. (Malvaceae) (Townsend, 1892, 1895; Van Pelt, 1990). In Mexico, it has likewise been associated with *S. angustifolia* (Anaya-Rosales *et al.*, 1987). Also in Mexico, Anaya-Rosales *et al.* (1987) reported it occurring occasionally on *Malva parviflora* L., but they did not believe this to be a normal food plant. In previously unpublished investigations in western Texas, we have collected adults from *Sphaeralcea incana* Torr. *ex* Gray.

Beyond Malvaceae, Anaya-Rosales *et al.* (1987) reported that *C. dislocata* occurs occasionally on *Simsia amplexicaulis* (Cav.) Pers. (Asteraceae) in Mexico. However, they did not believe this to be a normal host.

***Calligrapha dolosa* Brown.** This species is reported to occur on *Crataegus* (Rosaceae) (Downie & Arnett, 1996; Raizenne, 1975; Wilcox, 1972, 1979). It has also been recorded from *Viburnum* (Caprifoliaceae) (Raizenne, 1975).

***Calligrapha floridana* Schaeffer.** This species has been recorded from *Cornus* (Cornaceae) (Peck & Thomas, 1998). It has also been reported questionably from *Illicium* (Illiciaceae) (Wilcox, 1972).

***Calligrapha fulvipes* Stål.** In Central America, this species has been associated with *Sida rhombifolia* L. (Malvaceae) (Flowers & Janzen, 1997). Also in Latin America, it has been recorded from *Coffea* (Rubiaceae) and cacao [*Theobroma cacao* L.] (Sterculiaceae) (Domínguez & Carrillo, 1976; Maes & Staines, 1991), but these are probably not normal hosts.

***Calligrapha ignota* Brown.** Hosts are species of *Betula* (Betulaceae), including *B. lenta* L. and *B. papyrifera* Marsh. (Brown, 1958, 1945; Clark, 2000; Downie & Arnett, 1996; Ives & Wong, 1988; Raizenne, 1975; Wilcox, 1954, 1972, 1979). Although Dearborn & Donahue (1993) reported material from hemlock [*Tsuga*] (Pinaceae), this occurrence was almost certainly incidental.

***Calligrapha knabi* Brown.** These insects have been associated with species of *Cornus* (Cornaceae), including *C. stolonifera* Michx. [*C. sericea* L.] (Brown, 1940b; Downie & Arnett, 1996; Raizenne, 1975; Robertson, 1966; Wilcox, 1972, 1979).

***Calligrapha lunata* (Fabricius).** This species has been associated with *Rosa* (Rosaceae) (Beutenmüller, 1890a; Brown, 1945; Cavey, 1994; Clark, 2000; Clark & Cavey, 1995; Dearborn & Donahue, 1993; Downie & Arnett, 1996; Felt, 1907; Hegner, 1908; Proctor, 1938, 1946; Riley *et al.*, 2002; Smith, 1900, 1910a; Wickham, 1890a; Wilcox, 1972, 1979).

Wickham (1890a) recorded *C. lunata* from poison ivy [*Toxicodendron*] (Anacardiaceae); aster [*Aster* or a similar genus], sunflower [*Helianthus*] (Asteraceae); and grass [Poaceae]. However, he rightly doubted that the insects fed on these plants. Dearborn & Donahue (1993) recorded material from spruce [*Picea*] and white pine [*Pinus strobus* L.] (Pinaceae), but these occurrences were almost certainly also incidental.

***Calligrapha multiguttata* Stål.** This species has been recorded from *Heliopsis parvifolia* A. Gray (Asteraceae) and mesquite [*Prosopis*] (Fabaceae) (Leech & Green, 1955; Ward *et al.*, 1977). It has also been reported from alder [*Alnus*], hazel [*Corylus*] (Betulaceae); willow [*Salix*] (Salicaceae); linden [*Tilia*] (Tiliaceae); and elm [*Ulmus*] (Ulmaceae) (Beutenmüller, 1890a; Felt, 1907; Harrington, 1883). However, these associations were likely based on confusion with other species of *Calligrapha*.

***Calligrapha multipunctata* (Say).** This species, sometimes cited as *C. bigsbyana* (Kirby), feeds on *Salix* (Salicaceae), including *S. alba* L., *S. amygdaloides* Anderss., *S. bebbiana* Sarg., *S. cordata* Michx., *S. discolor* Muhl., *S. melanopsis* Nutt. [*S. exigua* var. *melanopsis* (Nutt.) Cronquist], *S. longifolia* Lam., *S. lucida* Muhl., *S. pentandra* L., and *S. petiolaris* J. E. Sm. (Andrews, 1923; Anonymous, 1985; Baker, 1972; Balsbaugh & Hays, 1972; Beutenmüller, 1890a; Blatchley, 1910; Brown, 1945; Brues, 1924; Bruner, 1890; Carr, 1988; Caulfield, 1885; Chagnon, 1938; Chagnon & Robert, 1962; Clark, 2000; Coquillett, 1883; Daviault, 1941; Dearborn & Donahue, 1993; Doane *et al.*, 1936; Downie & Arnett, 1996; Felt, 1907, 1930; Gómez-Zurita *et al.*, 2004; Hamilton, 1895; Hatch, 1924a, 1924b, 1971; Hegner, 1908, 1910; Hopkins, 1893; Ives & Wong, 1988; Johnson, 1927; Johnson & Lyon, 1991; Knab, 1909c; Lawson, 1991; LeSage *et al.*, 1994; Löding, 1945; MacAloney, 1950; Morris, 1914a, 1914b; Packard, 1890; Powell, 1932; Proctor, 1938, 1946; Raizenne, 1975; Riley & Enns, 1979; Robertson, 1966; Rouse & Medvedev, 1972; Russell, 1968; Smith, 1900, 1910a; Tanner, 1958; Timmermans *et al.*, 1992; Walsh, 1864; Wheeler & Hoebeke, 1979; Whitehead, 1920; Wilcox, 1954, 1972, 1979). In the laboratory, this beetle species has been maintained on *S. babylonica* L. (Timmermans *et al.*, 1992).

In previously unpublished field work in West Virginia, we have collected a series from *Salix sericea* Marsh. In numerous states, including Missouri, Utah, and Wyoming, we have frequently collected specimens from *S. exigua* Nutt. George Poinar (pers. comm.) has found *C. multipunctata* in association with *S. hookeriana* Barratt in Washington.

This beetle species has also been associated with species of *Populus* (Salicaceae), including *P. tremuloides* Michx. (Blatchley, 1910; Brown, 1945; Downie & Arnett, 1996; Powell, 1932; Raizenne, 1975; Wilcox, 1972). However, Brown (1945) doubted that *Populus* could be a larval host.

Beyond this, beetles have been reported from *Acer* (Aceraceae); *Alnus* (Betulaceae); *Cornus* (Cornaceae); fir [*Abies*], tamarack [*Larix laricina* (Du Roi) K. Koch], spruce [*Picea*], slash pine [*Pinus elliotii* Engelm.] (Pinaceae); *Crataegus columbiana* T. J. Howell [*C. douglasii* Lind.] and apple [*Malus sylvestris* P. Mill.] (Rosaceae) (Blatchley, 1910; Carr, 1988; Caulfield, 1885; Dearborn & Donahue, 1993; Dillon & Dillon, 1961; Felt, 1907, 1930; Hamilton, 1895; Hegner, 1908; Kirk, 1969; Powell, 1932; Proctor, 1938, 1946; Robertson, 1966; Smith, 1900, 1910a; Wolcott & Montgomery, 1933; Zimmer, 1909). These associations were surely either incidental or based on misidentification.

***Calligrapha ostryae* Brown.** The food plant is *Ostrya virginiana* (Mill.) K. Koch (Betulaceae) (Brown, 1945, 1958; Downie & Arnett, 1996; Raizenne, 1975; Robertson, 1966; Wilcox, 1972, 1979).

***Calligrapha philadelphica* (Linnaeus).** Hosts are species of *Cornus* (Cornaceae), including *C. amomum* Mill., *C. drummondii* C. A. Meyer, and *C. stolonifera* Michx. [*C. sericea* L.] (Balsbaugh & Hays, 1972; Brown, 1945, 1964; Chagnon, 1938; Chagnon & Robert, 1962; Clark, 2000; Downie & Arnett, 1996; Dozier, 1922; Felt, 1933; Gómez-Zurita *et al.*, 2004; Hatch, 1971; Hicks, 1944, 1949; Knab, 1909a; LeSage *et al.*, 1994; MacGillivray & Houghton, 1902; Morris, 1914a, 1914b; Papp, 1984; Raizenne, 1975; Riley & Enns, 1982; Robertson, 1966; Schaeffer, 1928c; J. B. Smith, 1910a; S. G. Smith, 1971; Swan & Papp, 1972; Timmermans *et al.*, 1992; Wheeler & Hoebeke, 1979; Wilcox, 1954, 1972, 1979).

This beetle species has also been recorded from alder [*Alnus*] (Betulaceae); *Hamamelis virginiana* L. (Hamamelidaceae); fir [*Abies*], spruce [*Picea*], *Pinus*, hemlock [*Tsuga*] (Pinaceae); *Amelanchier canadensis* Medik., *Spiraea* (Rosaceae); *Salix* (Salicaceae); linden [*Tilia*] (Tiliaceae); and elm [*Ulmus*] (Ulmaceae) (Andrews, 1923; Beutenmüller, 1890a; Caulfield, 1885; Chittenden, 1904a; Dearborn & Donahue, 1993; Dillon & Dillon, 1961; Felt, 1907; Harrington, 1883; Hatch, 1924b; Johnson, 1927; Lovell, 1915; Packard, 1890; Papp, 1984; Proctor, 1938, 1946; Robertson, 1966; Smith, 1900; Swan & Papp, 1972). Almost certainly, these reports were based on either misidentified insects or incidental occurrences.

***Calligrapha pnirsa* Stål.** This species feeds on *Tilia americana* L. (Tiliaceae) (Ainslie, 1925; Brown, 1945; Chagnon, 1917, 1938; Chagnon & Robert, 1962; Clark, 2000; Downie & Arnett, 1996; Downie & White, 1967; Felt, 1907; Gibson, 1904; Herrick, 1935; Raizenne, 1975; Robertson, 1966; S. G. Smith, 1971; Wheeler & Hoebeke, 1979; Wilcox, 1972, 1979).

***Calligrapha praecelsis* (Rogers).** This species is reported to occur on *Ambrosia trifida* L. and white-top [likely *Erigeron annuus* (L.) Pers.] (Asteraceae) (Blatchley, 1910; Clark, 2000; Downie & Arnett, 1996; Harris & Piper, 1970; Kovalev, 1971; Powell, 1932; Wilcox, 1954, 1979). It has also been recorded from *Calystegia sepium* (L.) R. Br., *Convolvulus*, and *Ipomoea pandurata* (L.) G. F. W. Mey. (Convolvulaceae) (Beutenmüller, 1890a; Brown, 1945; Clark, 2000; Hamilton, 1888, 1895; Harris & Piper, 1970; Kovalev, 1971; Mohyuddin, 1969a; Monrós, 1955; Wilcox, 1979). However, in spite of mention of feeding, these non-asteraceous associations were probably based on incidental occurrences, perhaps resulting from the tendency of convolvulaceous plants to twine around the true host.

***Calligrapha pruni* Brown.** The food plant of this species is *Prunus americana* Marsh. (Rosaceae) (Brown, 1945, 1964; Clark, 2000; Downie & Arnett, 1996; Hicks, 1945; Raizenne, 1975; Robertson, 1966; Wilcox, 1954, 1972, 1979).

***Calligrapha rhoda* Knab.** This species feeds on *Corylus americana* Walt. (Betulaceae) (Blatchley, 1910; Brown, 1945, 1964; Dillon & Dillon, 1961; Downie & Arnett, 1996; Knab, 1909a; Raizenne, 1975; Riley & Enns, 1982; Smith, 1910a; Wilcox, 1954, 1972, 1979). Beyond this, there has been speculation that it might feed on wild plum [*Prunus*] (Rosaceae) (Blatchley, 1910).

***Calligrapha rowena* Knab.** This has been associated with species of *Cornus* (Cornaceae), including *C. alternifolia* L. f., *C. obliqua* Raf. [*C. amomum* ssp. *obliqua* (Raf.) J. S. Wilson], *C. rugosa* Lam., and *C. stolonifera* Michx. [*C. sericea* L.] (Arnett, 1985; Arnett & Jacques, 1981; Brown, 1945, 1964; Chagnon, 1938; Chagnon & Robert, 1962; Clark, 2000; Downie & Arnett, 1996; Raizenne, 1975; Robertson, 1966; Wilcox, 1972, 1979). Although *C. rowena* has also been reported from fir [*Abies*] (Pinaceae) and grass [Poaceae] (Dearborn & Donahue, 1993; Hatch, 1924b), these occurrences were almost certainly incidental.

***Calligrapha scalaris* (LeConte).** Hosts are species of *Ulmus* (Ulmaceae), including *U. americana* L., Chinese elm [*U. parvifolia* Jacq.], and *U. racemosa* Thomas [*U. thomasi* Sarg.] (Anonymous, 1985; Arnett, 1985; Baker, 1972; Balsbaugh & Hays, 1972; Beutenmüller, 1890a; Blatchley, 1910; Brown, 1945, 1958, 1960, 1964; Brues, 1924; Burke *et al.*, 1974; Caulfield, 1884, 1885; Chagnon, 1917, 1938; Chagnon & Robert, 1962; Dean, 1946; Dearborn & Donahue, 1993; Douglass, 1929; Downie & Arnett, 1996; Felt, 1907, 1930; Fitch, 1859a; Hagen, 1884a, 1884b; Harris, 1841, 1863; Herrick, 1935; Hicks, 1949; Hintz, 1963b; Hoffman, 1942; Johnson, 1927; Johnson & Lyon, 1991; Kirk & Balsbaugh, 1975; Knab, 1909a; Mast, 1959; Packard, 1890; Papp, 1984; Perkins, 1890; Peterson, 1960; Pirone, 1970; Powell, 1932; Proctor, 1938, 1938; Raizenne, 1975; Riley & Enns, 1979; Robertson, 1966; Smith, 1910a, 1943; Swan & Papp, 1972; Walsh, 1864; Westcott, 1946; Wheeler & Hoebeke, 1979; Whitehead, 1919; Wilcox, 1954, 1972, 1979).

This beetle species has also been reported in association with *Alnus glutinosa* (L.) P. Gaertn., *Betula papyrifera* Marsh., *Corylus americana* Walt., *Ostrya* (Betulaceae); *Cornus alternifolia* L. f. (Cornaceae); wax myrtle [*Myrica*] (Myricaceae); fir [*Abies*], spruce [*Picea*], white pine [*Pinus strobus* L.] (Pinaceae); buttonwood [*Platanus occidentalis* L.] (Platanaceae); *Prunus americana* Marsh., mountain ash [*Sorbus*] (Rosaceae); poplar [*Populus*], *Salix humilis* Marsh. (Salicaceae); and *Tilia americana* L. (Tiliaceae) (Andrews, 1923; Arnett, 1985; Beutenmüller, 1890a; Blatchley, 1910, 1924a; Brown, 1945, 1958, 1960; Brues, 1924; Caulfield, 1884, 1885; Chagnon, 1938; Chagnon & Robert, 1962; Coquillett, 1883; Dean, 1946; Dearborn & Donahue, 1993; Doane *et al.*, 1936; Douglass, 1929; Felt, 1907, 1930; Fitch, 1859a; Gibson, 1904; Hagen, 1884b; Harris, 1841, 1863; Herrick, 1935; Hopkins, 1893; Jaques, 1951; Johnson, 1927; Johnson & Lyon, 1991; Knab, 1909a; Lovell, 1915; Matheson, 1944; Morris, 1911, 1914a, 1914b; Packard, 1888, 1890; Papp, 1984; Perkins, 1890; Peterson, 1960; Pirone, 1970; Popenoe, 1877; Powell, 1932; Proctor, 1938, 1946; Smith, 1943; Swan & Papp, 1972; Walsh, 1864; Westcott, 1946; Wheeler & Hoebeke, 1979; Whitehead, 1919). However, these associations were almost certainly either incidental or based on species of *Calligrapha* other than true *C. scalaris*.

In laboratory tests, larvae survived on *Tilia americana* (Brown, 1945; Robertson, 1966). However, this is probably not a natural host.

***Calligrapha serpentina* (Rogers).** This species, including populations in Latin America, has been recorded from *Sphaeralcea angustifolia* (Cav.) Don and *S. munroana* (Dougl. ex Lindl.) Spach ex A. Gray (Malvaceae) (Anaya-Rosales *et al.*, 1987; Brisley, 1925; Cockerell, 1897, 1902; Peterson, 1960; Townsend, 1895; Van Pelt, 1990). In previously unpublished investigations in western Texas, we have collected adults from *S. incana* Torr. ex Gray.

Beyond Malvaceae, this beetle species has been recorded from *Ayenia micrantha* Standl. (Sterculiaceae) (Flowers & Janzen, 1997). Additionally, Ward *et al.* (1977) listed it from mesquite [*Prosopis*] (Fabaceae).

***Calligrapha sigmoidea* (LeConte).** This species feeds on Malvaceae, having been recorded from *Alcea rosea* L., *Althaea*, *Malva moschata* L., and *Sidalcea malvaeflora* (DC.) A. Gray ex Benth. (Anonymous, 1960j; Brown, 1945; Carr, 1988; Hatch, 1971; Huguenin, 1914; James, 1960; Knowlton, 1957a; Knowlton & Taylor, 1952; Portman & Manis, 1954; Wilcox, 1972). In previously unpublished observations, we have associated beetles in California with *Sidalcea reptans* E. L. Greene.

***Calligrapha spiraeae* (Say).** The host of this species is *Physocarpus opulifolius* (L.) Maxim. (Rosaceae) (Brown, 1945; Clark, 2000; Downie & Arnett, 1996; Hamilton, 1895; Lawson, 1991; Mullins, 1976b; Raizenne, 1975; Riley & Enns, 1979; Say, 1826; Smith, 1900; Snetzinger, 1961; Wheeler & Hoebeke, 1979; Wilcox, 1954, 1972, 1979). This beetle species has also been reported from *Spiraea* (Rosaceae) (Proctor, 1938, 1946), but such records probably originated from an era when *Physocarpus* was not distinguished from *Spiraea*.

Beyond this, Wheeler & Hoebeke (1979) reported that a few beetles “notched leaves” of *Solidago* (Asteraceae), but only after *Physocarpus* had been completely defoliated. This beetle species has also been recorded from sumach [*Rhus*] (Anacardiaceae), wild plum [*Prunus*] (Rosaceae), and willow [*Salix*] (Salicaceae) (Felt, 1907; Johnson, 1916; Packard, 1890; Popenoe, 1877), but these associations were probably either incidental or based on species other than true *C. spiraeae*.

***Calligrapha suturella* Schaeffer.** This species has been associated with *Salix bebbiana* Sarg. (Salicaceae) (Gómez-Zurita *et al.*, 2004).

***Calligrapha tiliae* Brown.** This species feeds on *Tilia americana* L. (Tiliaceae) (Brown, 1945, 1964; Clark, 2000; Downie & Arnett, 1996; Raizenne, 1975; Wilcox, 1954, 1972, 1979). In laboratory experiments, larvae survived also on American elm [*Ulmus americana* L.] (Ulmaceae), but this is apparently not a natural host (Brown, 1945).

***Calligrapha verrucosa* (Suffrian).** This species feeds on *Salix* (Salicaceae) (Brown, 1945; Furniss, 1972; Gómez-Zurita *et al.*, 2004; Hatch, 1971; Ives & Wong, 1988; Knowlton, 1957a; Lawson, 1976b, 1991; Raizenne, 1975; Robertson, 1966; Wilcox, 1972). In previously unpublished investigations, we have seen specimens labeled from Montana in association with *S. exigua* Nutt.

***Calligrapha vicina* Schaeffer.** Hosts are species of *Cornus* (Cornaceae), these insects having been recorded from *C. sericea* L. (Cavey, 1994; Clark, 2000; Downie & Arnett, 1996; Raizenne, 1975; Robertson, 1966; S. G. Smith, 1971; Wilcox, 1972). In previously unpublished field work, we have collected this beetle species in Missouri from *C. drummondii* C. A. Meyer.

Beyond this, *Calligrapha vicina* has been reported from *Alnus* (Betulaceae) (Wilcox, 1972, 1979). However, this was probably in error.

***Calligrapha virginea* Brown.** This species feeds on *Tilia americana* L. (Tiliaceae) (Brown, 1945, 1958; Clark, 2000; Downie & Arnett, 1996; Raizenne, 1975; Robertson, 1966; S. G. Smith, 1971; Wilcox, 1972, 1979).

***Calligrapha wickhami* Bowditch.** In previously unpublished field work in western Texas, we have associated this species, both larvae and adults, with *Viguiera stenoloba* Blake (Asteraceae).

***Capraita circumdata* (Randall).** This species has been reported from *Symphoricarpos orbiculatus* Moench, *Triosteum aurantiacum* Bickn., *Viburnum rufidulum* Raf. (Caprifoliaceae); *Ledum groenlandicum* Oeder, *Vaccinium* (Ericaceae); *Fagus grandifolia* Ehrh., oak [*Quercus*] (Fagaceae); *Juglans cinerea* L. (Juglandaceae); *Cunila origanoides* (L.) Britt. (Lamiaceae); *Fraxinus americana* L. (Oleaceae); fir [*Abies*], spruce [*Picea*] (Pinaceae); *Plantago lanceolata* L. (Plantaginaceae); *Amelanchier canadensis* Medik., *Rubus* (Rosaceae); *Penstemon*, *Verbascum thapsus* L. (Scrophulariaceae); *Verbena urticifolia* L. (Verbenaceae); and *Vitis rotundifolia* Michx. (Vitaceae) (Balsbaugh & Hays, 1972; Blake, 1927; Blatchley, 1910; Clark, 2000; Dearborn & Donahue, 1993; Downie & Arnett, 1996; Duckett, 1920; Hatch, 1924a; Lovell, 1915; McGiffin & Neunzig, 1985; Papp, 1984; Proctor, 1938, 1946; Riley & Enns, 1979; Sholes, 1987; Swan & Papp, 1972; Wilcox, 1954, 1979).

Beyond this, Wray & Brimley (1943) reported a specimen of *C. circumdata* from *Sarracenia flava* L. (Sarracenaceae). However, this was probably an instance in which the insect was prey rather than an herbivore.

In previously unpublished field work in Missouri, we have found large numbers of *C. circumdata* feeding on the bracts at the bases of flower clusters of *Cornus florida* L. (Cornaceae). Also in Missouri, we have found this beetle species feeding on *Ilex decidua* Walt. (Aquifoliaceae); *Campsis radicans* (L.) Seem. ex Bureau (Bignoniaceae); *Cunila origanoides* (L.) Britt. (Lamiaceae); *Fraxinus americana*, *F. quadrangulata* Michx. (Oleaceae); *Aureolaria flava* (L.) Farw. and *Dasistoma macrophylla* (Nutt.) Raf. (Scrophulariaceae). Still in Missouri, we have found adults on *Helianthus hirsutus* Raf. (Asteraceae); *Lonicera flava* Sims, *Symphoricarpos orbiculatus* (Caprifoliaceae); *Scutellaria ovata* Hill., *Teucrium canadense* L. (Lamiaceae); *Phryma leptostachya* L. (Phrymaceae); *Plantago rugelii* Decne. (Plantaginaceae); *Aureolaria grandiflora* (Benth.) Pennell, *Mimulus alatus* Ait., *Verbascum blattaria* L., *V. thapsus*, and *Veronicastrum virginicum* (L.) Farw. (Scrophulariaceae). However, we did not observe actual feeding on these plants.

***Capraita durangoensis* (Jacoby).** This species has been reported from *Chilopsis linearis* (Cav.) Sweet (Bignoniaceae) (Riley *et al.*, 2002; Sholes, 1987).

***Capraita flavida* (Horn).** This species has been recorded from *Chilopsis linearis* (Cav.) Sweet (Bignoniaceae) (Riley *et al.*, 2002). In previously unpublished investigations, we have associated Texas populations with *Sapindus drummondii* Hook. & Arn. (Sapindaceae).

***Capraita indigoptera* (LeConte).** This species has been reported from broomsedge [*Andropogon virginicus* L.] (Poaceae) (Kirk, 1969).

***Capraita nigrosignata* (Schaeffer).** In previously unpublished field work in Texas, we have collected adults of this species from *Teucrium canadense* L. and *T. cubense* Jacq. (Lamiaceae).

***Capraita obsidiana* (Fabricius).** This species has been recorded from *Ilex opaca* Soland. in Ait., *I. verticillata* (L.) Gray (Aquifoliaceae); *Euonymus americanus* L. (Celastraceae); dogwood [*Cornus*] (Cornaceae); *Vaccinium virgatum* Ait. (Ericaceae); *Quercus* (Fagaceae); *Fraxinus pennsylvanica* Marsh. (Oleaceae); *Cephalanthus occidentalis* L. (Rubiaceae); and *Callicarpa americana* L. (Verbenaceae) (Balsbaugh & Hays, 1972; Blake, 1927; Clark, 2000; Downie & Arnett, 1996; Flowers *et al.*, 1994; Kirk, 1970; Peck & Thomas, 1998; Riley *et al.*, 2002; Sholes, 1987; Wilcox, 1979). Species of *Ilex* (Aquifoliaceae) are apparently

preferred hosts. In previously unpublished investigations, we have collected adults of *C. obsidiana* from *I. opaca*, *I. decidua* Walt. and *I. vomitoria* Soland. in Ait. in Louisiana and Texas.

***Capraita quercata* (Fabricius).** These beetles have been recorded in association with species of *Quercus* (Fagaceae), including white oak [*Q. alba* L.] (Blake, 1927; Blatchley, 1910; Clark, 2000; Doane *et al.*, 1936; Duckett, 1920; Fabricius, 1801; Harrington, 1883; Sholes, 1987). They have also been reported from ash [*Fraxinus*] (Oleaceae), *Crataegus* (Rosaceae), and mullein [*Verbascum*] (Scrophulariaceae) (Blatchley, 1910; Clark, 2000; Dozier, 1922; Duckett, 1920; Rouse & Medvedev, 1972).

***Capraita saltatra* (Blatchley).** This species is reported to feed on *Ampelopsis arborea* (L.) Koehne (Vitaceae) (Flowers *et al.*, 1994; Peck & Thomas, 1998).

***Capraita scalaris* (Melsheimer).** This species has been collected from Ericaceae (genus not specified) (Blake, 1927; Blatchley, 1924a; Downie & Arnett, 1996). It has also been reported from ash [*Fraxinus*] (Oleaceae) (Dozier, 1918, 1920).

***Capraita sexmaculata* (Illiger).** This species is apparently associated with Oleaceae. It has been recorded from *Chionanthus virginicus* L. and *Fraxinus americana* L. (Balsbaugh & Hays, 1972; Blake, 1927; Blatchley, 1924a; Clark, 2000; Downie & Arnett, 1996; Dozier, 1918, 1920; Felt, 1901; Raizenne, 1975; Riley & Enns, 1979; Riley *et al.*, 2002; Sholes, 1987; Smith, 1900, 1910a; Stirrett, 1924; Wilcox, 1954, 1979; Zappe, 1917). In previously unpublished investigations in east-central Texas, we have collected adults from *Forestiera ligustrina* (Michx.) Poir. and *Fraxinus berlandieriana* A. DC.

This beetle species has also been reported from *Cercis canadensis* L. (Fabaceae), oak [*Quercus*] (Fagaceae), and *Teucrium* (Lamiaceae) (Blatchley, 1910; Douglass, 1929; Duckett, 1920; Lee, 1949). However, these plants are probably not normal hosts.

***Capraita spilonota* (Blake).** This species has been collected by beating foliage of oak [*Quercus*] (Fagaceae) (Blatchley, 1930).

***Capraita subvittata* (Horn).** This species is reported to occur commonly on *Eurybia divaricata* (L.) Nesom (Asteraceae) (Levesque & Levesque, 1998; Sholes, 1987). Additionally, it has been recorded from *Daucus carota* L. (Apiaceae); *Eurybia macrophylla* (L.) Cass. (Asteraceae); *Alnus* (Betulaceae); *Physostegia virginiana* (L.) Benth. (Lamiaceae); fir [*Abies*] (Pinaceae); *Amelanchier* (Rosaceae); willow [*Salix*] (Salicaceae); *Mimulus ringens* L., *Penstemon*, *Verbascum thapsus* L., and *Veronica officinalis* L. (Scrophulariaceae) (Clark, 2000; Dearborn & Donahue, 1993; Lago & Mann, 1987; Levesque & Levesque, 1998; Riley & Enns, 1979; Russell, 1968; Sholes, 1987; Wilcox, 1979). Some of these associations involved flowers rather than leaves. In previously unpublished investigations, we have seen material labeled from South Dakota in association with *Solidago* (Asteraceae).

Boiteau (1983a) included *C. subvittata* in a list of insects collected from potato fields [*Solanum tuberosum* L.] (Solanaceae). Even so, this should not be interpreted as a host association.

***Capraita suturalis* (Fabricius).** This species has been collected from Ericaceae (genus not specified) (Balsbaugh & Hays, 1972; Clark, 2000; Downie & Arnett, 1996; Sholes, 1987; Wilcox, 1979). Beetles have also been found on *Ilex glabra* (L.) A. Gray (Aquifoliaceae) (Blake, 1927; Blatchley, 1924a; Clark, 2000; Sholes, 1987; Wilcox, 1979). Beyond this, Blatchley (1924a) reported material found hibernating in Spanish moss [*Tillandsia usneoides* (L.) L.] (Bromeliaceae), but he did not suggest that this was a food plant.

***Capraita texana* (Crotch).** In previously unpublished field work in southern Texas, we have collected adults of this species from *Plantago rhodosperma* Dcne. (Plantaginaceae).

***Capraita thymoides* (Crotch).** This species has been reported in association with *Eupatorium perfoliatum* L., *Silphium laciniatum* L. (Asteraceae); *Lespedeza* (Fabaceae); *Stachys tenuifolia* Willd., *Teucrium canadense* L. (Lamiaceae); and grass [Poaceae] (Balsbaugh & Hays, 1972; Blake, 1927; Douglass, 1929; Downie & Arnett, 1996; Hendrickson, 1930b; Hicks, 1944; Popenoe, 1877; Riley & Enns, 1979; Rouse & Medvedev, 1972; Sholes, 1987; Whelan, 1936; Wilcox, 1954, 1979). Additionally, Webster (1881) included it in a list of chrysomelids observed on either *Salix discolor* Muhl. or *S. petiolaris* J. E. Sm. (Salicaceae). Beyond this, Riley & Enns (1979) recorded it from under leaves of *Verbascum* (Scrophulariaceae) in early spring, but they did not suggest a food plant relationship. In fact, several of the associations mentioned above were probably adventitious.

In previously unpublished investigations, we have collected adults of this beetle species from *Campsis radicans* (L.) Seem. ex Bureau (Bignoniaceae) in east-central Texas. Andrew H. Williams (pers. comm.) has found adults feeding on *Scrophularia* and *Veronicastrum virginicum* (L.) Farw. (Scrophulariaceae) in Wisconsin.

***Cassida azurea* Fabricius.** This species, including Old World populations, has been reported from *Plec-onax conica* (L.) Sourikova, *Silene cucubalus* Wibel [*Oberna behen* (L.) Ikonn.], *Silene vulgaris* (Moench) Garcke [*Oberna behen*], *Saponaria officinalis* L., *Silene alba* (Mill.) E. H. L. Krause, and *S. behen* L. (Caryophyllaceae) (Borowiec, 1999; Gassmann, 1995; Jolivet, 2001; Julien & Griffiths, 1998; Lopatin, 1984; Maw & Steinhausen, 1980a; Mohr, 1966; Peschken *et al.*, 1997; Riley *et al.*, 2002; Sassi, 1991; White, 1996b).

Under experimental conditions, *C. azurea* has at least nibbled on sunflower [*Helianthus*] (Asteraceae); cabbage [*Brassica oleracea* L.] (Brassicaceae); *Dianthus caryophyllus* L., *Gypsophila pacifica* Komarov, *G. repens* L., *Lychnis x haageana* Lemaire, *Silene antirrhina* L., *S. menziesii* Hooker, *S. rotundifolia* Nuttall, *S. virginica* L. (Caryophyllaceae); beet [*Beta vulgaris* L.], mangel [*Beta vulgaris*], Swiss chard [*Beta vulgaris*], *Chenopodium album* L., spinach [*Spinacia oleracea* L.] (Chenopodiaceae); alfalfa [*Medicago sativa* L.] and lima bean [*Phaseolus lunatus* L.] (Fabaceae) (Maw & Steinhausen, 1980a; Peschken *et al.*, 1997; White, 1996b). However, many of these plants did not sustain the insects for very long, and they are probably not natural hosts.

Maw (1976b) reported “*Cassida hemisphaerica* Hbst.” in association with *Silene cucubalus* [*Oberna behen*] (Caryophyllaceae). Moreover, he stated that under experimental conditions the insects at least nibbled on *Tetragonia* (Aizoaceae); *Helianthus* (Asteraceae); cabbage [*Brassica oleracea*] (Brassicaceae); *Arenaria balearica* L., *A. serpyllifolia* L., *Cerastium vulgatum* L. [*C. fontanum* ssp. *vulgare* (Hartman) Greuter & Burdet], *C. tomentosum* L., *Dianthus barbatus* L., *D. caryophyllus*, *D. chinensis* L., *D. myrtinervius* Griseb., “*Dianthus peristera*,” *D. plumarius* L., *Gypsophila paniculata* L., *G. repens*, *Silene alpestris* Jacq. [*Ixoca quadrifida* (L.) Soják], *Oberna cserei* (Baumg.) Schur., *Silene maritima* With. [*O. uniflora* (Roth) Ikonn.], *Saponaria officinalis*, *Silene acaulis* (L.) Jacq., *S. alba*, *S. glauca* Pour., *S. noctiflora* L., *S. schafta* G. Gmelin, *Spergula arvensis* L., *Stellaria media* (L.) Vill., *Saponaria vaccaria* L. [*Vaccaria hispanica* (Mill.) Rauschert] (Caryophyllaceae); *Beta vulgaris*, *Spinacia* (Chenopodiaceae); alfalfa [*Medicago sativa*], lima bean [*Phaseolus lunatus*] (Fabaceae); and *Ballota nigra* L. (Lamiaceae). However, some of these plants were fed upon minimally and were not thought to be hosts under natural conditions. As noted by Maw & Steinhausen (1980a, 1980b), Peschken *et al.* (1997), and Riley *et al.* (2002), Maw’s report was based on misidentified *Cassida azurea*.

***Cassida circumdata* Herbst.** This southeast Asian species, adventive in Hawaii, is associated with Convolvulaceae, including *Calystegia soldanella* (L.) R. Br. ex Roem. & Schult., *Ipomoea aquatica* Forssk., *I. batatas* (L.) Lam., *I. cairica* (L.) Sweet, *I. digitata* L., *I. hederacea* Jacq., *I. indica* (Burm. f.) Merr., *I. purpurea* (L.) Roth, and *I. triloba* L. (Borowiec, 1999; Jolivet, 2001; Samuelson *et al.*, 1999).

***Cassida flaveola* Thunberg.** Hosts of this species, including populations in the Palearctic Region, are reported to be *Arenaria peploides* L., *Cerastium vulgatum* L. [*C. fontanum* ssp. *vulgare* (Hartman) Greuter & Burdet], *Honckenya peploides* (L.) Ehrh., *Malachium aquaticum* (L.) Fr., *Myosoton*, *Sagina*, *Silene*, *Spergula arvensis* L., *Stellaria graminea* L., *S. holostea* L., *S. media* (L.) Vill., and *S. nemorum* L. (Caryophyllaceae) (Barber, 1916; Borowiec, 1999; Mohr, 1966; Riley, 1986b; Sassi, 1991; Steinhausen, 1996; Wilcox, 1979).

***Cassida nebulosa* Linnaeus.** This species, doubtfully recorded from North America, has been reported in association with *Amaranthus ascendens* Lois., *A. mangostanus* L. [*A. tricolor* L.] (Amaranthaceae); *Atriplex nitens* Schkuhr, *A. patula* L., *A. subcordata* Kitag., *Beta vulgaris* L., *Chenopodium album* L., *C. bonus-henricus* L., *C. glaucum* L., *C. polyspermum* L., *C. rubrum* L., *C. urbicum* L., *C. vulvaria* L. (Chenopodiaceae); *Convolvulus*, sweet potato [*Ipomoea batatas* (L.) Lam.] (Convolvulaceae); *Mentha* (Lamiaceae); *Zea* (Poaceae); and Irish potato [*Solanum tuberosum* L.] (Solanaceae) (Barber, 1916; Borowiec, 1999; Campobasso *et al.*, 1999; Chittenden, 1903c; Essig, 1958; Forbes & Hart, 1900; Gressitt & Kimoto, 1963; Hamilton, 1894b; Horn, 1894; Jaques, 1951; Kismali & Sassi, 1994; Lopatin, 1984; Mohr, 1966; Mohyuddin, 1969a; Riley, 1986b; Riley *et al.*, 2002; Sassi, 1991; Steinhausen, 1996; Vig, 1992b, 1996).

***Cassida nobilis* Linnaeus.** This Palearctic species, doubtfully recorded from Alaska, is reported to occur on *Amaranthus* (Amaranthaceae); Asteraceae (genus not specified); *Honckenya peploides* (L.) Ehrh., *Silene*, *Spergula arvensis* L., *Stellaria media* (L.) Vill. (Caryophyllaceae); *Atriplex*, *Beta vulgaris* L., *Chenopodium album* L. (Chenopodiaceae); *Convolvulus arvensis* L. (Convolvulaceae); and Urticaceae (genus not specified) (Borowiec, 1999; Cox, 1995; Kismali & Sassi, 1994; Riley, 1986b; Riley *et al.*, 2002; Sassi, 1991; Steinhausen, 1996).

***Cassida relicta* Spaeth.** Riley (1986b) reported a specimen swept from *Gaillardia* (Asteraceae). In previously unpublished investigations, we have collected adults and larvae of this species from *G. amblyodon* Gay and *G. pulchella* Foug. in central Texas, and from *G. aestivalis* (Walt.) Rock in eastern Oklahoma.

***Cassida rubiginosa* Müller.** This species, including Palearctic populations, has been recorded from *Arctium lappa* L., *A. minus* (Hill) Bernh., *Artemisia maritima* L., *Carduus acanthoides* L., *C. crispus* L., *C. defloratus* L., *C. nutans* L., *C. personata* (L.) Jacq., *C. pycnocephalus* L., *C. tenuiflorus* W. Curt., *C. thoermeri* Weinmann, *Carthamus*, “*Centaurea calcutrea*,” *Centaurea jacea* L., *C. montana* L., *C. nigra* L., *C. solstitialis* L., *Cirsium acaule* (L.) Scop., *C. arvense* (L.) Scop., *C. canum* (L.) All., *C. chrysacanthum* (Ball) Jahandiez, *C. discolor* (Muhl. ex Willd.) Spreng., *C. eriophorum* Scop., *C. erisithales* (Jacq.) Scop., *C. heterophyllum* (L.) J. Hill, *C. muticum* Michx., *C. oleraceum* (L.) Scop., *C. palustre* (L.) Scop., *C. pumilum* (Nutt.) Spreng., *C. rivulare* (Jacq.) All., *C. salisburgense* G. Don, *C. tuberosum* All., *C. ukranicum* Besser, *C. vulgare* (Savi) Tenn., *Cynara cardunculus* L., *C. scolymus* L., *Inula helenium* L., *Onopordum acanthium*

L., *Petasites*, *Pulicaria*, *Saussurea tanakae* F. & S. ex Maxim., *Silybum marianum* (L.) Gaertn., *Sonchus*, and *Tanacetum* (Asteraceae) (Ang & Kok, 1995; Ang *et al.*, 1994, 1995; Barber, 1916; Batra, 1979; Batra *et al.*, 1981; Borowiec, 1999; Borowiec *et al.*, 1997; Brown, 1940a; Campobasso *et al.*, 1999; Cartwright & Kok, 1990; Chagnon, 1939; Chagnon & Robert, 1962; Clark, 2000; Downie & Arnett, 1996; Eisner *et al.*, 1967; Fabricius, 1801; Fyles, 1902; Goeden, 1974, 1976; Gressitt & Kimoto, 1963; Hacker, 1977a, 1997b; Hoebeke & Wheeler, 2003; Jolivet, 2001; Jolivet & Verma, 2002; Julien & Griffiths, 1998; Katovich *et al.*, 1999; Kismali & Sassi, 1994; Kok & Abad, 1994; Lopatin, 1984; Maw, 1976a; Mohr, 1966; Paterson, 1931; Peschken, 1984; Peschken & Johnson, 1979; Peterson, 1960; Riley, 1986b; Riley *et al.*, 2002; Sassi, 1991; Schenk & Bacher, 2002; Spring & Kok, 1997, 1999; Steinhausen, 1996; Tipping, 1993; Ward & Pienkowski, 1975, 1978a, 1978b; White, 1996b; Wilcox, 1954, 1979; Zwölfer, 1969; Zwölfer & Eichhorn, 1966). Chagnon's (1917) report of *Cassida viridis* Linnaeus, a species once thought to be synonymous with *C. rubiginosa*, from burdock [*Arctium*] and thistle [likely *Carduus* or *Cirsium*] probably applies to this beetle species. Also, Roy's (1902) report of "*Cassida thoracica* Ill." from *Lappa communis* [*Arctium lappa*] (Asteraceae) was probably based on *C. rubiginosa*.

In laboratory tests, *C. rubiginosa* has fed on many of the plants mentioned above and also on the asteraceous plants *Carthamus tinctorius* L., *Centaurea cyanus* L., *C. diffusa* Lam., *C. nigrescens* Willd., *C. scabiosa* L., *C. stoebe* L., *Cnicus benedictus* L., *Echinops sphaerocephalus* L., *Erigeron annuus* (L.) Pers., *Helianthus annuus* L., and *Xeranthemum annuum* L.; also, oviposition occurred on some of these plants and also on *Aster*, *Carlina*, and *Taraxacum* (Batra *et al.*, 1981; Zwölfer, 1969; Zwölfer & Eichhorn, 1966).

Beyond Asteraceae, *C. rubiginosa* has been reported from *Beta vulgaris* L., *Chenopodium* (Chenopodiaceae); alfalfa [*Medicago sativa* L.] (Fabaceae); *Ocimum* (Lamiaceae); grass [Poaceae]; and nightshade [*Solanum*] (Solanaceae) (Downie & Arnett, 1996; Hacker, 1977a; Kismali & Sassi, 1994; Peterson, 1945; Sassi, 1991). Additionally, Campobasso *et al.* (1999) recorded "*Cassida rubiginosa* ? O. F. Müller" from *Convolvulus arvensis* L. (Convolvulaceae). These non-asteraceous occurrences were probably incidental.

***Cerataltica insolita* (Melsheimer).** This species has been beaten from *Symphoricarpos vulgaris* Michx. [S. *orbiculatus* Moench] (Caprifoliaceae) (Blatchley, 1910, 1924a; Downie & Arnett, 1996; Duckett, 1920). It has also been collected from oak leaves [*Quercus*] (Fagaceae) (Kirk, 1969). Additionally, it has been swept from grass [Poaceae] and *Solanum* (Solanaceae) (Blatchley, 1925, 1928). In previously unpublished investigations in Louisiana, we have collected adults from *Phyllanthus urinaria* L. (Euphorbiaceae).

***Cerotoma atrofasciata* Jacoby.** This species, including populations in Latin America, is associated with Fabaceae, having been reported from *Arachis*, *Cajanus*, *Glycine max* (L.) Merr., *Phaseolus vulgaris* L., and *Vigna* (Barber, 1945; Domínguez & Carrillo, 1976; Eben & Espinosa de los Monteros, 2003; King & Saunders, 1984; Maes & Ruppel, 1991; Maes & Staines, 1991; Painter, 1955; Passoa, 1983; Wilcox, 1965).

This beetle species has also been recorded from *Citrullus vulgaris* Schrad. ex Eckl. & Zeyh. [*C. lanatus* (Thunb.) Matsum. & Nakai], *Cucumis sativus* L., *Cucurbita pepo* L. (Cucurbitaceae); *Manihot*, *Ricinus* (Euphorbiaceae); *Persea* (Lauraceae); *Sida* (Malvaceae); *Musa* (Musaceae); *Sesamum* (Pedaliaceae); *Cenchrus*, *Oryza sativa* L., *Paspalum*, *Sorghum*, *Zea mays* L. (Poaceae); and *Theobroma* (Sterculiaceae) (Maes & Ruppel, 1991; Maes & Staines, 1991; Painter, 1955; Passoa, 1983). Even so, these are probably not normal food plants.

Rouse & Medvedev (1972) reported *C. atrofasciata* in association with Apiaceae (genus not specified). However, their observation was made in Arkansas, far beyond the beetle's generally recognized range, and it was probably based on misidentification.

***Cerotoma ruficornis* (Olivier).** This species, including populations in Latin America, is associated with Fabaceae, having been reported from *Cajanus cajan* (L.) Millsp., *Desmodium incanum* DC., *Glycine max* (L.) Merr., *Dolichos lablab* L. [*Lablab purpureus* (L.) Sweet], *Medicago sativa* L., *Phaseolus lunatus* L., *P. vulgaris* L., *Pisum sativum* L., *Pueraria phaseoloides* (Roxb.) Benth., *Vicia faba* L., and *Vigna unguiculata* Clav. (Barber, 1945; Bechyné, 1997b; Bruner *et al.*, 1975; Chiang Lok *et al.*, 1987; Cotton, 1918; Crowson, 1981; Domínguez & Carrillo, 1976; Heyer, 1996; Heyer & Cruz, 1986; Heyer *et al.*, 1988a, 1988b, 1991, 1993; Jansen & Staples, 1971; Jones, 1915; King & Saunders, 1984; MacGregor & Gutiérrez, 1983; Maes & Ruppel, 1991; Maes & Staines, 1991; Martorell, 1976; Passoa, 1983; Peck & Thomas, 1998; Risch, 1976; Takizawa, 2003; Turnipseed & Kogan, 1976; Virkki & Santiago-Blay, 1997, 1998; Wilcox, 1965; Wolcott, 1936, 1951; Yépez Gil & Montagne, 1984, 1985, 1989a, 1989b, 1990a, 1990b, 1990c). In previously unpublished investigations in southern Texas, we have collected adults from *Vigna luteola* (Jacq.) Benth. (Fabaceae).

This beetle species has also been recorded from "palmas" [Arecaceae]; *Helianthus annuus* L. (Asteraceae); sweet potato [*Ipomoea batatas* (L.) Lam.] (Convolvulaceae); *Cucumis melo* L., *C. sativus* L., *Cucurbita martinicensis* L. Bailey, *C. moschata* (Duchn. ex Lam.) Duchn. ex Poir. (Cucurbitaceae); *Gossypium hirsutum* L., *Sida* (Malvaceae); *Sesamum indicum* L. (Pedaliaceae); *Oryza sativa* L., pangola [*Digitaria eriantha* Steud.], *Panicum maximum* Jacq., *Saccharum officinarum* L., *Zea mays* L. (Poaceae); *Coffea* (Rubiaceae); *Capsicum*

frutescens L. [*C. annuum* L.], *Lycopersicon esculentum* Mill. (Solanaceae); and *Theobroma* (Sterculiaceae) (Bechyné, 1997b; Domínguez & Carrillo, 1976; Eben, 1999; MacGregor & Gutiérrez, 1983; Maes & Ruppel, 1991; Maes & Staines, 1991; Martorell, 1976; Passoa, 1983; Wolcott, 1936, 1951). Even so, these are probably not normal food plants.

***Cerotoma trifurcata* (Forster).** This species is associated with Fabaceae, having been reported from *Amphicarpa bracteata* (L.) Fern, *Arachis hypogaea* L., partridge pea [*Chamaecrista fasciculata* (Michx.) Greene], *Coronilla varia* L., *Desmodium canescens* (L.) DC., *D. cuspidatum* (Muhl. ex Willd.) DC. ex Loud., *D. illinoense* A. Gray, *D. laevigatum* (Nutt.) DC., *D. paniculatum* (L.) DC., *D. tortuosum* (Sw.) DC., *Glycine max* (L.) Merr., beach pea [*Lathyrus japonicus* Willd.], *Lespedeza cuneata* (Dum.-Cours.) G. Don, *L. striata* (Thunb.) Hook. & Arnold, *Medicago polymorpha* L., *M. sativa* L., sweetclover [*Melilotus*], velvetbean [*Mucuna*], “Butler bean” [presumably butter bean, *Phaseolus lunatus* L.], lima bean [*Phaseolus lunatus*], *Phaseolus vulgaris* L., *Pisum sativum* L., kudzu [*Pueraria montana* (Lour.) Merr.], *Strophostyles helvula* (L.) Ell., crimson clover [*Trifolium incarnatum* L.], *Trifolium pratense* L., white clover [*T. repens* L.], hop clover [*Trifolium*], English horse bean [*Vicia faba* L.], moth bean [*Vigna aconitifolia* (Jacq.) Marechal], *Vigna unguiculata* Clav., *Wisteria floribunda* (Willd.) DC., and “kultri bean” (Abdullah & Qureshi, 1968; Andrews, 1923; Anonymous, 1968f; Arant, 1954; Baerg, 1949; Balduf, 1923; Balsbaugh & Hays, 1972; Barber, 1945; Barwood, 1965; Barwood & Brackeen, 1964a; Barwood & Davis, 1963a; Baur *et al.*, 2000; Bell, 1973; Bickenstaff & Huggans, 1962; Blatchley, 1910, 1924a; Britton, 1918b; Carner *et al.*, 1974; Chagnon, 1938; Chagnon & Robert, 1962; Chittenden, 1892, 1897c, 1899a, 1900, 1902a, 1912b; Clark, 2000; Clark *et al.*, 1972; Crosby & Leonard, 1918; Crowson, 1981; Davidson & Lyon, 1987; Dearborn & Donahue, 1993; Deitz *et al.*, 1976; Dillon & Dillon, 1961; Dinkins, 1969a, 1969b; Douglass, 1929; Downie & Arnett, 1996; Dozier, 1918, 1922; Drees & Rice, 1990; Eddy & Nettles, 1930; Essig, 1958; Everly, 1957; Folsom, 1936b; Genung, 1965a, 1965b; Grimes, 1958c; Hamilton, 1895; Hawley, 1922; Helm *et al.*, 1983; Herzog *et al.*, 1974; Hopkins & Mueller, 1983; Houser *et al.*, 1964; Hunt & Baker, 1982; Isely, 1929b, 1930b; Jansen & Staples, 1971; Jones, 1915; Kirk, 1969, 1970; Kirk & Balsbaugh, 1975; Knowles, 1974; Kogan *et al.*, 1974; Layton *et al.*, 1987; Löding, 1945; Loughran & Ragsdale, 1986; Matthew & Dobson, 1959; McConnell, 1915; McQueen, 1963e, 1964c, 1967c; Metcalf & Metcalf, 1993; Milliron, 1955a, 1956b, 1958; A. P. Morris, 1956; Mueller & Haddox, 1980; Neiswander, 1931; Newsom, 1963a; Newsom & Burns, 1954b; Norris & Kogan, 2000; Oliver, 1955e; Orton & Chittenden, 1917; Papp, 1984; Peck & Thomas, 1998; Pedigo, 1996; Peterson, 1960; Petty, 1955b; Popenoe, 1877; Riley & Enns, 1979; Ross, 1963; Rouse & Medvedev, 1972; Rutledge, 1968; Sanderson & Peairs, 1931; Seibels, 1963c; Smith, 1900, 1910a, 1943; Sorensen & Baker, 1983; Staines, 1986b; Swan & Papp, 1972; Troxclair & Boethel, 1984; Tugwell *et al.*, 1973; Turnipseed & Kogan, 1976; Waldbauer & Kogan, 1976a, 1976b; Walters, 1964; Walters & Lee, 1969; Webster, 1888, 1893a; Westcott, 1946; White, 1979b; Wickham, 1897; Wilcox, 1954, 1965, 1979; Willey, 1955). In unusual reports, it has been reported feeding on sap flowing from wounds in yellow locust [*Robinia pseudoacacia* L.] (Chittenden, 1897c; Hopkins, 1893).

Metcalf & Metcalf (1993) recorded *C. trifurcata* from beggar-tick [*Bidens*] (Asteraceae). However, this may have been an error, beggarweed [*Desmodium*] (Fabaceae) being intended. Similarly, Chittenden (1912b) and Orton & Chittenden (1917) reported this beetle species from tickseed [*Bidens* or *Coreopsis*] (Asteraceae), but this was likely a mistake, tick-trefoil [*Desmodium*] being intended. Bissell (1953) reported *C. trifurcata* from “a beach vine.” This may have been based a fabaceous plant, such as *Canavalia*. On the other hand, it may have been based on a non-fabaceous plant, such as *Jacquemontia* (Convolvulaceae).

Our previously unpublished field work has revealed additional fabaceous associations for *C. trifurcata*. We have found adults feeding on *Apios americana* Medik. (Fabaceae) in both Illinois and Missouri, and on *Strophostyles leiosperma* (Torr. & A. Gray) Piper in east-central Texas. We have also found adults on *Desmodium glutinosum* (Muhl. ex Willd.) Wood in Illinois and Missouri, on *D. sessilifolium* (Torr.) Torr. & Gray in Missouri, and on *Phaseolus polystachios* (L.) B.S.P. in Missouri. However, actual feeding was not observed on these plants.

Beyond Fabaceae, beetles have been reported from carrot [*Daucus carota* L.] (Apiaceae); ragweed [*Ambrosia*], *Eupatorium* (Asteraceae); *Tillandsia usneoides* (L.) L. (Bromeliaceae); *Euonymus atropurpureus* Jacq. (Celastraceae); lamb’s quarters [*Chenopodium album* L.] (Chenopodiaceae); sweet potato [*Ipomoea batatas* (L.) Lam.] (Convolvulaceae); watermelon [*Citrullus lanatus* (Thunb.) Matsum. & Nakai], cantaloupe [*Cucumis melo* L.], cucumber [*Cucumis sativus* L.] (Cucurbitaceae); cotton [*Gossypium*] (Malvaceae); spruce [*Picea*] (Pinaceae); rice [*Oryza sativa* L.], *Zea mays* L. (Poaceae); *Salix discolor* Muhl., *S. petiolaris* J. E. Sm. (Salicaceae); pepper [*Capsicum*], potato [*Solanum tuberosum* L.] (Solanaceae); *Laportea canadensis* (L.) Wedd. and *Urtica dioica* L. (Urticaceae) (Barwood, 1965; Burbutis, 1961c, 1962a; Burbutis & Mason, 1961a; Crosby & Leonard, 1918; Dearborn & Donahue, 1993; Folsom, 1936b; French, 1962; Grimes, 1959b; Hawley, 1922; Helm *et al.*, 1983; Hunt & Baker, 1982; Kirk, 1969, 1970; Metcalf & Metcalf, 1993; Neis-

wander, 1931; Norris & Kogan, 2000; Pitts, 1965b; Rosenfeld, 1911; Rouse & Medvedev, 1972; Sorensen & Baker, 1983; Waldbauer & Kogan, 1976b; Webster, 1881; Westcott, 1946). Additionally, Robertson (1929) reported *Ceratoma* [sic] from Illinois in association with flowers of *Zizia aurea* (L.) W. D. J. Koch (Apiaceae) and *Eupatorium perfoliatum* L. (Asteraceae). The only species of *Ceratoma* occurring in or anywhere nearby Illinois is *C. trifurcata*. Apparently, beetles do sometimes feed on non-fabaceous hosts in early spring, before normal hosts become available. Even so, some of the above-mentioned associations were probably purely incidental.

McConnell (1915) indicated that beetles frequently hibernate in clumps of *Andropogon virginicus* L. (Poaceae), but he did not suggest that this was a food plant. Watson (1922) recorded a specimen swept from grass [Poaceae], but sweeping records should not necessarily be interpreted as host associations. Wray & Brimley (1943) reported *C. trifurcata* from *Sarracenia flava* L. (Sarraceniaceae), but this was probably an instance in which the insects were prey rather than herbivores.

***Chaetocnema acuminata* White.** In Mexico, this species has been reported from lamb's quarters [*Chenopodium album* L.] (Chenopodiaceae) and pea [likely *Pisum sativum* L.] (Fabaceae) (White, 1996a).

***Chaetocnema albiventrifera* White.** This species has been reported from *Persicaria* [*Polygonum*] (Polygonaceae) (White, 1996a).

***Chaetocnema anisota* White.** Material has been collected by sweeping vegetation that included grass [Poaceae] (White, 1996a). However, sweeping records should not necessarily be interpreted as host associations.

***Chaetocnema blatchleyi* Csiki.** This species has been reported from *Batis maritima* L. (Bataceae) (Blatchley, 1923, 1924a; Gentner, 1953; White, 1996a). However, Blatchley (1928) discounted this association, stating that the true host is doubtless *Fimbristylis castanea* (Michx.) M. Vahl. (Cyperaceae). Beyond this, a specimen has been collected from *Vigna repens* Baker (Fabaceae) (White, 1996a).

***Chaetocnema brunnescens* Horn.** This species, including West Indian populations, has been reported in association with *Conocarpus erectus* L. and *Laguncularia racemosa* (L.) Gaertn. f. (Combretaceae) (Blake, 1941; Hilburn & Gordon, 1989; Takizawa, 2003; White, 1996a). Additionally, it has been recorded from *Rhizophora mangle* L. (Rhizophoraceae) (Martorell, 1976; Wolcott, 1951). It has also been reported from *Flaveria linearis* Lag. (Asteraceae), *Batis maritima* L. (Bataceae), *Ginoria rohrii* Koehne (Lythraceae), and buttonwood [*Platanus occidentalis* L.] (Platanaceae) (Blake, 1941; Blatchley, 1917, 1924a; Martorell, 1976; Takizawa, 2003; White, 1996a; Wolcott, 1951), but these are probably not normal hosts.

***Chaetocnema concinna* (Marshall).** This species, including Old World populations, has been reported from *Amaranthus caudatus* L., *A. retroflexus* L. (Amaranthaceae); *Centaurea solstitialis* L. (Asteraceae); rutabaga [*Brassica napus* L.], turnip [*Brassica rapa* L.], kale [*Brassica*] (Brassicaceae); hemp [*Cannabis sativa* L.], hop [*Humulus*] (Cannabaceae); *Atriplex*, *Beta vulgaris* L., *Chenopodium album* L., spinach [*Spinacia oleracea* L.] (Chenopodiaceae); *Genista tinctoria* L. (Fabaceae); *Panicum*, *Sorghum sudanense* (Piper) Stapf, *Triticum* (Poaceae); *Fagopyrum esculentum* Moench, *F. sagittatum* Gilib., *F. tataricum* (L.) Gaertn., *Polygonum amphibium* L., *P. aviculare* L., *P. convolvulus* L., *P. cuspidatum* Sieb. & Zucc., *P. hydropiper* L., *P. lapathifolium* L., *P. mite* Schrank, *P. persicaria* L., *Rheum palmatum* L., rhubarb [*R. rhabarbarum* L.], *R. rhaponticum* L., *Rumex acetosa* L., *R. acetosella* L., *R. arifolius* Linn. f., *R. crispus* L., *R. hydrolapathum* Huds., *R. maritimus* L., *R. obtusifolius* L., *R. sylvestris* (Lam.) Wallr. (Polygonaceae); *Fragaria*, *Potentilla simplex* Michx., raspberry [*Rubus*] (Rosaceae); and *Salix alba* L. (Salicaceae) (Abdullah & Qureshi, 1969; Anonymous, 1959a, 1961; Aslan *et al.*, 2003; Cagán *et al.*, 2000; Campobasso *et al.*, 1999; Clark, 2000; Doguet, 1994; Frost, 1924; Furth, 1986; Hoebeke, 1980a; Hoebeke & Wheeler, 1983; Jolivet, 2001; LeSage, 1990a; Levesque & Levesque, 1998; Lopatin, 1984; Mohr, 1966; Mölleken & Topp, 1997; Newton, 1929; Petitpierre, 1999; Vig, 1992b, 1996, 1997; Vig & Rozner, 1996; White, 1996a). Polygonaceous plants are apparently preferred hosts.

Beyond the above-mentioned associations, Newton (1929) indicated that *C. concinna* sometimes spends the winter in grass tufts [Poaceae]. However, he did not suggest a food plant relationship.

***Chaetocnema confinis* Crotch.** This species feeds on Convolvulaceae, having been recorded from *Calystegia sepium* (L.) R. Br., *Convolvulus arvensis* L., *Ipomoea aquatica* Forssk., *I. batatas* (L.) Lam., *I. palmata* Forssk. [*I. cairica* (L.) Sweet], *I. pandurata* (L.) G. F. W. Mey., *I. purpurea* (L.) Roth, and *Pharbitis cathartica* (Poir.) Choisy (Balsbaugh & Hays, 1972; Balsbaugh *et al.*, 1967; Blatchley, 1910, 1924a; Carr, 1988; Chittenden, 1897b, 1912b; Clark, 2000; Cox, 1996; Crosby & Leonard, 1918; Cuthbert & Davis, 1971; Cuthbert & Jones, 1972; Cuthbert & Reid, 1965; Davidson & Lyon, 1987; Dillon & Dillon, 1961; Downie & Arnett, 1996; Duckett, 1920; Forbes, 1905; Forbes & Hart, 1900; Gentner, 1953; Hallock, 1939; Hilburn & Gordon, 1989; Jaques, 1951; Jolivet, 1979b, 1998a, 1998c, 2001; Jolivet & Verma, 2002; Jones, 1915; Kalaichelvan *et al.*, 2001; King & Saunders, 1984; Kirk, 1969, 1970; Metcalf & Metcalf, 1993; Milliron, 1958; Mohyuddin, 1969a; Neiswander, 1931; Orton & Chittenden, 1917; Papp, 1984; Pirone, 1970; Poos, 1955; Poos & Elliott, 1936; Riley & Enns, 1979; Sanderson, 1899; Sanderson & Peairs, 1931; Smith, 1893a,

1900, 1910a, 1910b, 1943, 1950; Sorensen, 1994; Sorensen & Baker, 1983; Stear, 1918; Stirrett, 1924; Swan & Papp, 1972; Tashiro, 1987; Westcott, 1946; White, 1996a; Wilcox, 1979). In previously unpublished field work in West Virginia, we have associated *C. confinis* with cultivated *Ipomoea nil* (L.) Roth.

This beetle species has also been reported from *Dichondra* (Convolvulaceae) (Anonymous, 1967t, 1969a, 1969m, 1970k, 1971g). However, as noted by Tashiro (1987), such reports are likely based on populations of *Chaetocnema repens* McCrea.

Beyond Convolvulaceae, *C. confinis* has been reported from *Acer negundo* L., Norway maple [*A. platanoides* L.] (Aceraceae); *Amaranthus retroflexus* L. (Amaranthaceae); *Asclepias syriaca* L. (Asclepiadaceae); burdock [*Arctium*], *Carduus nutans* L., artichoke [*Cynara scolymus* L.], *Pluchea*, *Solidago canadensis* L. (Asteraceae); *Catalpa* (Bignoniaceae); rape [*Brassica napus* L. or *B. rapa* L.], turnip [*Brassica rapa*] (Brassicaceae); *Viburnum prunifolium* L. (Caprifoliaceae); *Beta vulgaris* L. (Chenopodiaceae); dogwood [*Cornus*] (Cornaceae); cucumber [*Cucumis sativus* L.] (Cucurbitaceae); *Cercis canadensis* L., *Cassia chamaecrista* L. [*Chamaecrista fasciculata* (Michx.) Greene], wild licorice [*Glycyrrhiza lepidota* Nutt. ex Pursh], soybean [*Glycine max* (L.) Merr.], *Medicago sativa* L., velvetbean [*Mucuna*], lima bean [*Phaseolus lunatus* L.], *Phaseolus vulgaris* L., *Trifolium pratense* L., cowpea [*Vigna unguiculata* Clav.] (Fabaceae); *Quercus palustris* Muenchh., *Q. rubra* L. (Fagaceae); buckeye [*Aesculus*] (Hippocastanaceae); *Juglans regia* L. (Juglandaceae); pokeroot [*Phytolacca americana* L.] (Phytolaccaceae); creeping Jenny [*Lysimachia nummularia* L.] (Primulaceae); *Abutilon theophrasti* Medik., cotton [*Gossypium*], *Hibiscus* (Malvaceae); white ash [*Fraxinus americana* L.] (Oleaceae); *Gaura* (Onagraceae); *Andropogon furcatus* Muhl. ex Willd. [*A. gerardii* Vitman], *Avena sativa* L., orchard grass [*Dactylis glomerata* L.], rye [*Elymus* or *Secale*], *Phleum pratense* L., *Poa compressa* L., “L. blue stem” [little bluestem, *Schizachyrium scoparium* (Michx.) Nash], *Sorghum sudanense* (Piper) Stapf, *Triticum aestivum* L., *Zea mays* L. (Poaceae); buckwheat [*Eriogonum*, *Fagopyrum*, or *Polygonum*] (Polygonaceae); *Fragaria chiloensis* (L.) Duchn., apple [*Malus sylvestris* P. Mill.], *Prunus americana* Marsh., peach [*P. persica* (L.) Batsch], *P. virginiana* L., pyracantha [*Pyracantha*], *Rubus* (Rosaceae); *Salix discolor* Muhl., *S. petiolaris* J. E. Sm. (Salicaceae); tomato [*Lycopersicon esculentum* Mill.], *Nicotiana*, Irish potato [*Solanum tuberosum* L.], nightshade [*Solanum*] (Solanaceae); basswood [*Tilia*] (Tiliaceae); and *Vitis rotundifolia* Michx. (Vitaceae) (Abdullah & Qureshi, 1969; Anonymous, 1968l; Barrett, 1932; Batra *et al.*, 1981; Blatchley, 1924a; Boiteau, 1983a; Bray & Triplehorn, 1953; Carr, 1920, 1988; Chittenden, 1897b; Cleveland & Hamilton, 1959; Crosby & Leonard, 1918; Dailey *et al.*, 1978; Davidson & Lyon, 1987; Deitz *et al.*, 1976; Dozier, 1918, 1920; Duckett, 1920; Farrier, 1959; Farrier & Weisman, 1958; Forbes, 1905; Forbes & Hart, 1900; Gentner, 1953; Hallock, 1939; Hayes, 1922; Hendrickson, 1931b; Hilburn & Gordon, 1989; Jackson, 1969; Johnson, 1968h; Kalaichelvan *et al.*, 2001; King & Saunders, 1984; Kirk, 1969, 1970; Knowlton, 1939; Lee, 1949; Leeper, 1969; McGiffin & Neunzig, 1985; Metcalf & Metcalf, 1993; Milliron, 1958; Morihara & Balsbaugh, 1976; Neiswander, 1931; Papp, 1984; Poos, 1955; Poos & Elliott, 1936; Rouse & Medvedev, 1972; Sorensen, 1994; Sorensen & Baker, 1983; Stirrett, 1924; Swan & Papp, 1972; Webster, 1881, 1888; Westcott, 1946; White, 1996a). Also, in Bermuda, “*Chaetocnema* sp. prob. *confinis*” has been reported from eggplant [*Solanum melongena* L.] (Solanaceae) (Hilburn & Gordon, 1989). Many of these non-convolvulaceous associations were probably incidental and possibly resulted from the tendency of Convolvulaceae to twine around other plants. Some reported associations may have been based on misidentification.

***Chaetocnema crenulata* Crotch.** Riley & Enns (1979) reported material swept from an area where sedges [Cyperaceae] and grasses [Poaceae] were abundant.

***Chaetocnema cribrata* LeConte.** The type specimen was collected under moss [Bryophyta] (Gentner, 1953), but it is doubtful that this plant served as a host.

***Chaetocnema densa* White.** This species is apparently associated with Chenopodiaceae, having been reported from *Atriplex*, *Salsola kali* L., and spinach [*Spinacia oleracea* L.] (White, 1996a). In previously unpublished investigations along the coast of southern Texas, we have collected adults from *Atriplex canthocarpa* var. *coahuilensis* (Henrickson) Welsh & Crompton and *A. cristata* Humb. & Bonpl. ex Willd.

***Chaetocnema denticulata* (Illiger).** This species is normally associated with Poaceae, having been reported from *Agrostis*, broomsedge [*Andropogon virginicus* L.], *Avena sativa* L., *Cynodon dactylon* (L.) Pers., *Dactylis glomerata* L., *Digitaria ischaemum* (Schreb.) Schreb. ex Muhl., *D. sanguinalis* (L.) Scop., *Echinochloa crus-galli* (L.) Beauv., *Eleusine indica* (L.) Gaertn., barley [*Hordeum*], rice [*Oryza sativa* L.], *Panicum capillare* L., *P. dichotomiflorum* Michx., *P. miliaceum* L., knotgrass [*Paspalum*], *Pennisetum spicatum* (L.) Körn. [*Pennisetum glaucum* (L.) R. Br.], sugarcane [*Saccharum officinarum* L.], *Secale cereale* L., *Setaria lutescens* (Weigel) Hubb. [*S. glauca* (L.) Beauv.], *S. italica* (L.) P. Beauv., *S. viridis* (L.) Beauv., broomcorn [*Sorghum bicolor* (L.) Moench], milo [*Sorghum bicolor*], Johnson grass [*Sorghum halepense* (L.) Pers.], *Triticum sativum* Lam. [*T. aestivum* L.], *Urochloa mollis* (Sw.) Morrone & Zuloaga, and *Zea mays* L. (Abdullah & Qureshi, 1969; Ahring & Howell, 1968; Anonymous, 1965a; Baldus, 1923; Blatchley, 1910; Dillon & Dillon, 1961; Duckett, 1920; Beisler *et al.*, 1977; Carr, 1988; Chittenden, 1897b, 1902a, 1912b; Davidson & Lyon,

1987; Douglass, 1929; Essig, 1958; Everly, 1938; Forbes, 1905; Forbes & Hart, 1900; Gentner, 1953; Hayes, 1922; Jaques, 1951; Kirk, 1969, 1970; Knowlton, 1939; Metcalf & Metcalf, 1993; Milliron, 1958; Neiswander, 1931; Osborn & Knull, 1939; Poos, 1955; Poos & Elliott, 1936; Riley & Enns, 1979; Rouse & Medvedev, 1972; Smith, 1900, 1910a, 1943; Stear, 1918; Stirrett, 1924; Thomas & Werner, 1981; White, 1996a).

Additionally, *C. denticulata* has been reported from thistle [likely *Carduus* or *Cirsium*], *Pyrethrum*, *Galinosa parviflora* Cav., *G. ciliata* (Raf.) Blake [*G. quadriradiata* Ruiz & Pavin], *Grindelia camporum* E. L. Greene (Asteraceae); *Brassica oleracea* L., *B. rapa* L., *Lepidium alyssoides* A. Gray [*L. montanum* ssp. *alyssoides* (A. Gray) C. L. Hitchcock], *Raphanus sativus* L. (Brassicaceae); *Cannabis sativa* L. (Cannabaceae); *Beta vulgaris* L., *Chenopodium album* L., *C. anthelminticum* L., spinach [*Spinacia oleracea* L.] (Chenopodiaceae); sweet potato [*Ipomoea batatas* (L.) Lam.] (Convolvulaceae); watermelon [*Citrullus lanatus* (Thunb.) Matsum. & Nakai], muskmelon [*Cucumis melo* L.], cucumber [*Cucumis sativus* L.] (Cucurbitaceae); *Cyperus ferax* L. C. Rich. [*C. odoratus* L.], *C. strigosus* L. (Cyperaceae); castorbean [*Ricinus communis* L.] (Euphorbiaceae); *Glycine hispida* (Moench) Maxim. [*G. max* (L.) Merr.], lespedeza [*Lespedeza*], *Medicago sativa* L., lima bean [*Phaseolus lunatus* L.], *Trifolium pratense* L. (Fabaceae); oak [*Quercus*] (Fagaceae); mint [*Mentha* or a similar genus] (Lamiaceae); *Oenothera* (Onagraceae); *Fragaria chiloensis* (L.) Duchn. (Rosaceae); pepper [*Capsicum*], tobacco [*Nicotiana*], and eggplant [*Solanum melongena* L.] (Solanaceae) (Baldur, 1923; Batra, 1979; Beisler *et al.*, 1977; Bickensstaff & Huggans, 1962; Blatchley, 1910; Bruner, 1891a, 1891b; Burbutis & Mason, 1960a; Carr, 1988; Deitz *et al.*, 1976; Dickerson & Weiss, 1920; Duckett, 1920; Essig, 1958; Farrier, 1959; Farrier & Weisman, 1958; Forbes, 1905; Forbes & Hart, 1900; Gentner, 1953; Jaques, 1951; Kirk, 1969, 1970; Knowlton, 1939; Lago & Stanford, 1989; Milliron, 1957c; Niemczyk & Guyer, 1963; Poos, 1955; Poos & Elliott, 1936; Romney, 1946; Rouse & Medvedev, 1972; Smith, 1943; Stirrett, 1924, 1935; White, 1996a). However, at least most of these plants are not normal hosts.

***Chaetocnema difficilis* White.** This species has been collected from a wild crucifer [Brassicaceae], *Juniperus utahensis* (Engelm.) Lemmon [*J. osteosperma* (J. Torr.) Little] (Cupressaceae), *Carex* (Cyperaceae), and *Salix* (Salicaceae) (White, 1996a).

***Chaetocnema dispar* Horn.** In previously unpublished investigations, we have collected adults of this species from *Ipomoea leptophylla* J. Torr. (Convolvulaceae) in Texas. We have also identified specimens labeled from Montana in association with *Convolvulus* (Convolvulaceae).

***Chaetocnema ectypa* Horn.** This species is associated with Poaceae, having been reported from *Avena*, *Bambusa*, *Distichlis spicata* (L.) Greene, *Hordeum murinum* L., *H. sativum* Pers. [*H. vulgare* L.], rice [*Oryza sativa* L.], bluegrass [*Poa*], *Saccharum officinarum* L., *Sorghastrum*, *Andropogon sorghum* (L.) Brot. [*Sorghum arundinaceum* (Desv.) Stapf.], *Sorghum vulgare* var. *saccharatum* (L.) Boerl. [*S. bicolor* (L.) Moench], *S. durra* (Forssk.) Stapf, *S. halepense* (L.) Pers., Sudan grass [*S. sudanense* (Piper) Stapf], *Sporobolus airoides* (J. Torr.) J. Torr., *Triticum aestivum* L., and *Zea mays* L. (Abdullah & Qureshi, 1969; Anonymous, 1966p, 1966q, 1968i, 1968j, 1971b, 1971h; Bechtel, 1960; Bechtel & Parker, 1961a, 1961b, 1961e; Beirne, 1971; Bibby, 1961; Brisley, 1925; Carr, 1988; Crosby & Leonard, 1918; Davidson & Lyon, 1987; Essig, 1958; Gentner, 1953; Hayes, 1922; Jaques, 1951; Knowlton, 1955c, 1958a; Knowlton *et al.*, 1961; McDaniel *et al.*, 1992; Neiswander, 1931; Stirrett, 1924; Thomas & Werner, 1981; Westcott, 1946; White, 1996a; Wildermuth, 1917). In addition to these associations, material has been collected by sweeping pastures of Bermuda grass [*Cynodon dactylon* (L.) Pers.] (White, 1996a).

This beetle species has also been reported from a field of spurge [*Euphorbia*] (Euphorbiaceae) and milo [*Sorghum bicolor*] (Poaceae) (Anonymous, 1969l). The host in this instance was surely *Sorghum* rather than *Euphorbia*.

Beyond Poaceae, *C. ectypa* has been recorded from carrot [*Daucus carota* L.] (Apiaceae); *Baccharis*, safflower [*Carthamus tinctorius* L.], *Lactuca sativa* L., guayule [*Parthenium argentatum* A. Gray] (Asteraceae); turnip [*Brassica rapa* L.] (Brassicaceae); *Beta vulgaris* L., *Salsola kali* L. (Chenopodiaceae); sweet potato [*Ipomoea batatas* (L.) Lam.] (Convolvulaceae); *Cucumis melo* L., cucumber [*C. sativus* L.], pumpkin [*Cucurbita*] (Cucurbitaceae); sedge [Cyperaceae]; peanut [*Arachis hypogaea* L.], *Medicago sativa* L., *Melilotus indica* (L.) All., pole bean [*Phaseolus vulgaris* L.], string bean [*Phaseolus vulgaris*] (Fabaceae); avocado [*Persea americana* Mill.] (Lauraceae); flax [*Linum*] (Linaceae); cotton [*Gossypium*] (Malvaceae); Colorado blue spruce [*Picea pungens* Engelm.] (Pinaceae); willow [*Salix*] (Salicaceae); bell pepper [*Capsicum annuum* L.], matrimony vine [*Lycium*], tomato [*Lycopersicon esculentum* Mill.], *Solanum elaeagnifolium* Cav., Irish potato [*S. tuberosum* L.] (Solanaceae); and *Tamarix gallica* L. (Tamaricaceae) (Anonymous, 1965i, 1965o, 1965u, 1965v, 1966g, 1966i, 1966w, 1967a, 1967c, 1969c, 1969f; Bechtel & Parker, 1961a, 1961b; Bibby, 1961; Carr, 1988; Crosby & Leonard, 1918; Essig, 1958; Hopkins & Carruth, 1954; Knowlton, 1954b, 1955c; Roth, 1960; Stirrett, 1924; White, 1996a; Wildermuth, 1917). Additionally, specimens have been labeled from “mustard and mallow” [*Brassica* or a similar genus (Brassicaceae) and *Malva* or a similar genus (Malvaceae)] (White, 1996a). However, in spite of the fact that beetles were sometimes reported to be numerous,

and in spite of some reports of feeding, non-poaceous plants are probably not normal hosts.

Neilson (1949) reported “*Chaetocnema* sp. near *ectypa*” damaging corn [*Zea mays*]. However, according to White (1996a), this record was based on *C. subconvexa* White rather than *C. ectypa*. Stone & Fries (1986) listed “*Chaetocnema* sp. nr. *ectypa*” from *Parthenium argentatum* (Asteraceae).

***Chaetocnema elongatula* Crotch.** This species has been recorded in association with *Pyrus malus* L. [*Malus sylvestris* P. Mill.] (Rosaceae). However, White (1996a) doubted that reported damage to apple [*Malus sylvestris*] was based on correctly identified beetles. Burke *et al.* (1974) listed *C. elongatula* from *Crataegus* (Rosaceae), but this association was likely incidental.

***Chaetocnema floridana* Blatchley.** This species has been swept from huckleberry [*Gaylussacia*] (Ericaceae) (Blatchley, 1923, 1924a; White, 1996a). However, sweeping records, without supporting evidence, should not necessarily be interpreted as host associations. Gentner (1953) also reported association with huckleberry [*Gaylussacia*], but this was likely based on Blatchley’s work.

***Chaetocnema fulvida* White.** In Mexico, a series of this species has been collected from *Trianthema portulacastrum* L. (Aizoaceae) (White, 1996a).

***Chaetocnema fuscata* White.** This species has been collected from *Lespedeza sericea* Benth. [*L. cuneata* (Dum.-Cours.) G. Don] (Fabaceae) and “B. Blue Stem” [big bluestem, *Andropogon gerardii* Vitman] (Poaceae) (White, 1996a).

***Chaetocnema irregularis* LeConte.** This species, sometimes cited as the synonym *C. subcylindrica* LeConte, has been recorded in association with *Carex* (Cyperaceae) (Gentner, 1953; White, 1996a). It has also been reported from grass [Poaceae] (White, 1996a).

Additionally, this beetle species has been swept from *Scirpus atrovirens* Willd. (Cyperaceae), *Juncus* (Juncaceae), and grass [Poaceae], and “*Chaetocnema subcylindrica* ? Lec.” has been collected by sweeping poison ivy [*Toxicodendron*] (Anacardiaceae) (Hamilton, 1895; Johnson, 1916; Riley & Enns, 1979; White, 1996a). However, although at least *S. atrovirens* likely represents a true food plant, sweeping records should not necessarily be interpreted as host associations. Beyond these records, *C. irregularis* has been reported from alfalfa [*Medicago sativa* L.] (Fabaceae) (White, 1996a), but this occurrence was probably adventitious.

***Chaetocnema labiosa* White.** This species has been reported from *Artemisia tridentata* Nutt. (Asteraceae) (White, 1996a).

***Chaetocnema livida* White.** This species has been swept from grass [Poaceae] (White, 1996a). However, sweeping records should not necessarily be interpreted as host associations.

***Chaetocnema magnipunctata* Gentner.** This species has been reported from dichondra [*Dichondra*] (Convolvulaceae) (Anonymous, 1967e, 1968c). However, as noted by Tashiro (1987), reports of this beetle species attacking *Dichondra* were likely based on misidentified populations of *Chaetocnema repens* McCrear.

***Chaetocnema minuta* Melsheimer.** This species has been reported from *Apium graveolens* L. (Apiaceae); *Solidago* (Asteraceae); *Brassica oleracea* L. (Brassicaceae); sugar beet [*Beta vulgaris* L.] (Chenopodiaceae); *Aesculus octandra* Marsh. [*A. flava* Ait.] (Hippocastanaceae); bent grass [*Agrostis*], *Dactylis glomerata* L., bluegrass [*Poa*], *Zea mays* L. (Poaceae); and *Dirca palustris* L. (Thymelaeaceae) (Chittenden, 1897b; Forbes, 1905; Levesque & Levesque, 1998; Neiswander, 1931; Poos, 1955; Root, 1973; Stirrett, 1924, 1935; White, 1996a). It has also been swept from Bermuda grass [*Cynodon dactylon* (L.) Pers.] (Poaceae) (Levesque & Levesque, 1998; White, 1996a). Beyond these records, Goeden (1971a) included “*Chaetocnema minuta* Mels. or near” in a list of insects collected from *Solanum elaeagnifolium* Cav. (Solanaceae).

***Chaetocnema obesula* LeConte.** This species, including West Indian populations, has been reported in association with *Oryza sativa* L., *Paspalum notatum* Flüggé, and sugarcane [*Saccharum officinarum* L.] (Poaceae) (Blake, 1941; Bruner *et al.*, 1975; King & Saunders, 1984; White, 1996a). It has also been reported from clover [likely *Trifolium*] (Fabaceae) (White, 1996a).

Blatchley (1923) commented on beetles doing damage to cucumber [*Cucumis sativus* L.] (Cucurbitaceae) and eggplant [*Solanum melongena* L.] (Solanaceae). However, he also noted that the insects examined were part of a mixed series including not only *C. obesula*, but also *Chaetocnema quadricollis* Schwarz and *Epitrix cucumeris* (Harris). It is extremely doubtful that either of the species of *Chaetocnema* was responsible for the damage.

***Chaetocnema opacula* LeConte.** This species has been reported from azalea [*Rhododendron*] (Ericaceae), Marion bluegrass [*Poa pratensis* L.] (Poaceae), and *Salix* (Salicaceae) (Anonymous, 1966a; McLoughlin & Every, 1969; White, 1996a). Beyond this, Goeden (1971a) recorded “*Chaetocnema* sp. near *opacula*” from *Solanum elaeagnifolium* Cav. (Solanaceae).

***Chaetocnema opulenta* Horn.** This species has been reported from *Malcolmia africana* (L.) R. Br. (Brassicaceae), *Carex torta* Boott *ex* Tuckerman (Cyperaceae), *Erodium cicutarium* (L.) L’Hér. *ex* Aiton (Geraniaceae), *Juncus* (Juncaceae), *Mentha* (Lamiaceae), reed [*Phragmites* or similar genus] (Poaceae), and willow [*Salix*] (Salicaceae) (Blatchley, 1910; Carr, 1988; Clark, 2000; Downie & Arnett, 1996; Gentner,

1924; White, 1996a; Wilcox, 1954, 1979). However, the occurrences on non-cyperaceous plants may have been incidental.

Our field work in West Virginia has demonstrated that *Carex torta* is definitely a host of this beetle species. Additionally, we have collected numerous adults by sweeping *Schoenoplectus maritimus* (L.) Lye (Cyperaceae) in Utah.

***Chaetocnema ordinata* White.** This species has been reported from bean [likely *Phaseolus vulgaris* L.] (Fabaceae) (White, 1996a).

***Chaetocnema pinguis* LeConte.** White (1996a) recorded material labeled from *Erigeron ramosus* Raf. (Asteraceae). Beyond this, Kirk (1970) reported “*Chaetocnema* prob. *pinguis*” swept from oats [*Avena*] (Poaceae).

In previously unpublished field work in Texas, we have collected adults of *C. pinguis* from *Paspalum pubiflorum* Rupt. ex Fourn. (Poaceae). Records maintained by the USDA-ARS Grassland, Soil and Water Research Laboratory state that adults of “*Chaetocnema* sp. near *pinguis*” have been beaten from the foliage of *Aloysia gratissima* (Gillies & Hook.) Troncoso (Verbenaceae) in Maverick County, Texas (Thomas O. Robbins, pers. comm.).

***Chaetocnema prolata* White.** Records maintained by the USDA-ARS Grassland, Soil and Water Research Laboratory state that adults of “*Chaetocnema* sp. prob. *prolata*” have been swept in Cochise County, Arizona from foliage of *Kallstroemia grandiflora* J. Torr. ex A. Gray (Zygophyllaceae) (Thomas O. Robbins, pers. comm.).

***Chaetocnema protensa* LeConte.** This species has been recorded from red fescue [*Festuca rubra* L.], marsh grass [*Spartina*], and *Zea mays* L. (Poaceae) (Gentner, 1924, 1953; Stirrett, 1924; White, 1996a). It has also been reported from artichoke [*Cynara scolymus* L.] (Asteraceae); *Abutilon theophrasti* Medik. (Malvaceae); tomato [*Lycopersicon esculentum* Mill.], tobacco [*Nicotiana*], and *Physalis* (Solanaceae) (Hallock, 1939; Metcalf & Underhill, 1919; White, 1996a). However, these associations may have been incidental or based on misidentification. *Chaetocnema protensa* has also been collected by sweeping clover [likely *Trifolium*] (Fabaceae) and orchard grass [*Dactylis glomerata* L.] (Poaceae) (Duckett, 1920), but sweeping records, without supporting evidence, should not be interpreted as host associations.

***Chaetocnema pulicaria* Melsheimer.** This species is well known for its often pestiferous association with *Zea mays* L. (Poaceae) (Abdullah & Qureshi, 1969; Adams & Los, 1986; Beirne, 1971; Bland & Jaques, 1978; Blatchley, 1910; Borror *et al.*, 1989; Chittenden, 1897b, 1902a, 1912b; Chupp & Leiby, 1953; Clark, 2000; Davidson & Lyon, 1987; Dillon & Dillon, 1961; Dodge, 1891; Downie & Arnett, 1996; Dozier, 1918; Duckett, 1920; Everly, 1938; Forbes, 1905; Forbes & Hart, 1900; Gentner, 1953; Gentry, 1954; Hallock, 1939; Hewitt *et al.*, 1974; Hunt & Baker, 1982; Jaques, 1951; Kirk, 1969, 1970; McDaniel *et al.*, 1992; Metcalf & Metcalf, 1993; Milliron, 1958; Nault *et al.*, 1978; Neiswander, 1931; Packard, 1952; Papp, 1984; Poos, 1939, 1955; Poos & Elliott, 1936; Riley & Enns, 1979; Riley & Howard, 1891b; Smith, 1900, 1910a, 1943; Sorensen, 1994; Sorensen & Baker, 1983; Stear, 1918; Stirrett, 1924; Swan & Papp, 1972; Westcott, 1946; White, 1983, 1996a; Wilcox, 1954, 1979; Wressell, 1955).

This beetle species has also been associated with other Poaceae, including *Agrostis alba* L., *Avena sativa* L., *Cynodon dactylon* (L.) Pers., *Dactylis glomerata* L., *Digitaria ischaemum* (Schreb.) Schreb. ex Muhl., *D. sanguinalis* (L.) Scop., *Echinochloa crus-galli* (L.) Beauv., *Eleusine indica* (L.) Gaertn., *Elymus virginicus* L., *Eragrostis pectinacea* (Michx.) Nees, fescue [*Festuca* or *Vulpia*], *Hordeum distichon* L. [*H. vulgare* convar. *distichon* (L.) Alef.], *Lolium multiflorum* Lam. [*L. perenne* ssp. *multiflorum* (Lam.) Husnot], *Panicum capillare* L., *P. dichotomiflorum* Michx., *P. miliaceum* L., *Pennisetum spicatum* (L.) Körn. [*Pennisetum glaucum* (L.) R. Br.], *Phleum pratense* L., *Phragmites*, *Poa compressa* L., sugarcane [*Saccharum officinarum* L.], *Secale cereale* L., *Setaria faberi* Herrm., *S. lutescens* (Weigel) Hubb. [*S. glauca* (L.) Beauv.], *S. italica* (L.) P. Beauv., *Sorghum vulgare* Pers. [*Sorghum bicolor* (L.) Moench], *S. halepense* (L.) Pers., *S. sudanense* (Piper) Stapf, *Triticum aestivum* L., and *Urochloa mollis* (Sw.) Morrone & Zuloaga (Adams, 1967; Adams & Los, 1986; Anonymous, 1958b, 1958c, 1959h, 1961f, 1961h, 1965e, 1967k, 1967m; Beisler *et al.*, 1977; Bland & Jaques, 1978; Blatchley, 1910; Burbutis & Conrad, 1959; Clark, 2000; Douglass, 1929; Forbes, 1905; Forbes & Hart, 1900; Garman, 1926; Gentner, 1953; Hayes, 1922; Henderson, 1959; Hewitt *et al.*, 1974; Hunt & Baker, 1982; Jaques, 1951; Kirk, 1970; McQueen, 1966a; Milliron, 1957a; Osborn, 1891; Papp, 1984; Petty, 1955a; Poos, 1939, 1955; Poos & Elliott, 1936; Riley & Enns, 1979; Smith, 1900, 1910a; Sorensen & Baker, 1983; Stirrett, 1924; Swan & Papp, 1972; White, 1996a; Wilcox, 1979). Under experimental conditions, it has fed on *Coix lacryma-jobi* L. and *Poa pratensis* L. (Poos, 1939, 1955).

Hewitt *et al.* (1974), referencing Wildermuth (1917), stated that *C. pulicaria* was sometimes abundant on *Distichlis spicata* (L.) Greene, *Hordeum murinum* L., *Sorghum halepense*, and *Sporobolus airoides* (J. Torr.) J. Torr. (Poaceae). However, Wildermuth's report dealt with *Chaetocnema ectypa* Horn rather than *C. pulicaria*.

Beyond Poaceae, *C. pulicaria* has been reported from *Amaranthus retroflexus* L. (Amaranthaceae);

Ambrosia, *Galinsoga parviflora* Cav., *G. ciliata* (Raf.) Blake [*G. quadriradiata* Ruiz & Pavin], *Gutierrezia sarothrae* (Pursh) N. L. Britt. & Rusby, guayule [*Parthenium argentatum* A. Gray], *P. hystrophorus* L. (Asteraceae); rape [*Brassica napus* L. or *B. rapa* L.], cabbage [*Brassica oleracea* L.], turnip [*Brassica rapa*] (Brassicaceae); *Cannabis sativa* L. (Cannabaceae); *Beta vulgaris* L. (Chenopodiaceae); *Convolvulus*, sweet potato [*Ipomoea batatas* (L.) Lam.] (Convolvulaceae); cucumber [*Cucumis sativus* L.] (Cucurbitaceae); *Cyperus esculentus* L., *C. strigosus* L. (Cyperaceae); *Croton capitatus* Michx. (Euphorbiaceae); *Glycine hispida* (Moench) Maxim. [*G. max* (L.) Merr.], *Medicago sativa* L., *Melilotus alba* Medik., string bean [*Phaseolus vulgaris* L.], *Trifolium incarnatum* L., *T. pratense* L., landino clover [*T. repens* L.], *Vicia*, *Vigna sinensis* (L.) Savi ex Hassk. [*V. unguiculata* Clav.] (Fabaceae); *Quercus palustris* Muenchh., *Q. rubra* L. (Fagaceae); *Juncus torreyi* Coville (Juncaceae); cotton [*Gossypium*] (Malvaceae); *Picea mariana* (P. Mill.) B.S.P., *Pinus nigra* Arnold, *Pseudotsuga taxifolia* (Lam.) Britt. [*P. menziesii* (Mirb.) Franco] (Pinaceae); *Polygonum convolvulus* L. (Polygonaceae); *Fragaria chiloensis* (L.) Duchn., *Malus x domestica* Borkh. [*M. sylvestris* P. Mill.], *Prunus virginiana* L., plum [*Prunus*] (Rosaceae); *Lycopersicon esculentum* Mill., tobacco [*Nicotiana*], *Physalis*, *Solanum carolinense* L., potato [*S. tuberosum* L.] (Solanaceae); and *Vitis* (Vitaceae) (Anonymous, 1956c, 1957c; Balsbaugh & Hays, 1972; Batra, 1979; Beisler *et al.*, 1977; Bickensstaff & Huggans, 1962; Bolton, 1968a, 1968b; Bray & Triplehorn, 1953; Brown *et al.*, 1988; Cleveland & Hamilton, 1959; Deitz *et al.*, 1976; Douglass, 1929; Duckett, 1920; Eubanks, 1967; Farrier & Weisman, 1958; Forbes, 1905; Forbes & Hart, 1900; Foster *et al.*, 1981; Frost, 1949; Hallock, 1939; Hunt & Baker, 1982; Kirk, 1969, 1970; Lago & Stanford, 1989; McDonald, 1968a, 1968b; McGiffin & Neunzig, 1985; Mohyuddin, 1969a; Niemczyk & Guyer, 1963; Papp, 1984; Poos, 1955; Poos & Elliott, 1936; Rouse & Medvedev, 1972; Smith, 1938, 1943, 1968; Sorensen & Baker, 1983; Stirrett, 1924, 1935; Swan & Papp, 1972; White, 1996a; Wilcox, 1979). However, at least some of these associations were likely either adventitious or based on misidentification. Beyond natural occurrences, *C. pulicaria* has fed on broadbean [*Vicia faba* L.] (Fabaceae) under laboratory conditions (Poos, 1955).

Knowlton (1957b) recorded “*Chaetocnema* sp. probably *pulicaria*” from litter of blue spruce [*Picea pungens* Engelm.] (Pinaceae). However, this should not be considered a host association.

***Chaetocnema quadricollis* Schwarz.** This species is associated with Malvaceae. It has been recorded from *Abutilon berlandieri* A. Gray ex S. Watson, “*Abutilon metamorensis*” [possibly *A. matopense* L. S. Gibb], *Althaea officinalis* L., *Hibiscus militaris* Cav. [*H. laevis* Scop.], *H. lasiocarpus* Cav., *H. moscheutos* L., *H. palustris* L., *Kosteletzkya*, *Malvastrum americanum* (L.) J. Torr., *M. coromandelianum* (L.) Garcke, and *Sphaeralcea angustifolia* (Cav.) Don (Clark, 2000; Duckett, 1920; Gentner, 1953; Nicolay, 1919; Stirrett, 1924; Weiss, 1919a; Weiss & Dickerson, 1919; White, 1996a; Wilcox, 1979).

In previously unpublished investigations, we have collected adults from several of the plants mentioned above, and, in Texas, also from the malvaceous species *Allowissadula lozanii* (Rose) Bates and *Sphaeralcea hastulata* Gray. We have identified the beetles as *C. quadricollis*, based on the diagnostic characters provided by White (1996a). However, we note that there is quite a bit of variability among populations, with striking differences in size, microsculpture, and even male genitalia. Future taxonomic investigations may demonstrate that multiple species are involved.

Blatchley (1923) commented on specimens of *C. quadricollis* that had been reported doing damage to cucumber [*Cucumis sativus* L.] (Cucurbitaceae) and eggplant [*Solanum melongena* L.] (Solanaceae). However, he also noted that the specimens were part of a mixed series including *Chaetocnema obesula* LeConte and *Epitrix cucumeris* (Harris). It is extremely doubtful that either of the species of *Chaetocnema* was responsible for the damage. Beyond this, *C. quadricollis* has been reported from cocklebur [*Xanthium*] (Asteraceae); *Dalea*, pea [likely *Pisum sativum* L.] (Fabaceae); corn [*Zea mays* L.] (Poaceae); and *Verbena urticifolia* L. (Verbenaceae) (Kirk, 1969; Schwarz, 1890; White, 1996a). These associations were likely either incidental or based on misidentification.

***Chaetocnema repens* McCrea.** Hosts are species of *Dichondra* (Convolvulaceae), including *D. carolinensis* Michx. and *D. repens* non J. R. Forst. & G. Forst. [*D. micrantha* Urban] (Ali, 1989; Carr, 1988; Hogue, 1993; Jolivet, 1979b; McCrea, 1973; Potter, 1998; Tashiro, 1987; White, 1996a). Material has also been recorded from *Paspalum notatum* Flügge (Poaceae) (White, 1996a), but this occurrence was likely incidental.

***Chaetocnema rileyi* White.** This species has been associated with *Fimbristylis castanea* (Michx.) M. Vahl. (Cyperaceae) (White, 1996a).

***Chaetocnema serpentina* White.** This species has been associated with *Convolvulus cyclostegius* House [*Calystegia macrostegia* ssp. *cyclostegia* (House) Brummitt] (Convolvulaceae) (White, 1996a).

***Chaetocnema subconvexa* White.** This species has been reported from moss [Bryophyta]; *Descurainia* (Brassicaceae); *Carex*, *Scirpus* (Cyperaceae); barley [*Hordeum*], rice [*Oryza sativa* L.], wheat [*Triticum*], corn [*Zea mays* L.] (Poaceae); “*Polygonum suberti*” (Polygonaceae); tomato [*Lycopersicon esculentum* Mill.] and potato [*Solanum tuberosum* L.] (Solanaceae) (White, 1996a). It has also been swept from alfalfa [*Medi-*

cago sativa L.] (Fabaceae) (White, 1996a).

Neilson (1949) reported “*Chaetocnema* sp. near *ectypa* Horn” damaging corn [*Z. mays*]. According to White (1996a), this record was based on *C. subconvexa* rather than *C. ectypa*.

***Chaetocnema subviridis* LeConte.** This species has been reported from sedge [Cyperaceae], *Medicago sativa* L. (Fabaceae), wheat [*Triticum*] (Poaceae), *Cerasus borealis* Michx. [*Prunus pensylvanica* L. f.] (Rosaceae), and *Salix* (Salicaceae) (Douglass, 1929; Riley & Enns, 1982; White, 1996a). In previously unpublished investigations in western Texas, we have collected adults from *Muhlenbergia* (Poaceae).

***Chaetocnema texana* Crotch.** This species has been collected from turf [Poaceae] (White, 1996a). It has also been swept from *Salix nigra* Marsh. (Salicaceae) (White, 1996a).

***Chaetocnema truncata* White.** White (1996a) recorded material collected from sod [Poaceae].

***Chalepus bacchus* (Newman).** This species has been swept from grass [Poaceae] (Butte, 1968b).

***Chalepus bellulus* (Chapuis).** In Latin America, this species has been reported from “palmas” [Arecaceae]; *Phaseolus* (Fabaceae); pangola [*Digitaria eriantha* Steud.] and *Oryza* (Poaceae) (Domínguez & Carrillo, 1976; Flowers & Janzen, 1997; Maes & Staines, 1991; Staines, 1996).

***Chalepus bicolor* (Olivier).** This species is associated with *Dichanthelium* (Poaceae), having been reported from *D. clandestinum* (L.) Gould, *D. nitidum* (Lam.) Mohlenbr. [*D. dichotomum* (L.) Gould], *Panicum macrocarpon* J. LeConte ex Torr. [*D. latifolium* (L.) Gould & C. A. Clark], *D. microcarpon* (Muhl. ex Elliott) Mohlenbr., and *D. scribnerianum* Nash (Butte, 1968b; Chittenden, 1902b, 1904b; Ford & Cavey, 1985; Frost, 1924, 1950; Maulik, 1937; Needham *et al.*, 1928; Riley & Enns, 1979; Wilcox, 1979). In previously unpublished investigations, we have collected adults of this beetle species from *D. scoparium* (Lam.) Gould in east-central Texas.

Wray & Brimley (1943) reported a specimen of *C. bicolor* from *Sarracenia flava* L. (Sarraceniaceae). However, this was probably an instance in which the insect was prey rather than an herbivore.

***Chalepus sanguinicollis* (Linnaeus).** In Latin America, this species has been recorded in association with *Digitaria insularis* (L.) Mez ex Ekman, *Panicum leucophaeum* Kunth, *Paspalum densum* Poir., and *Sorghastrum setosum* (Griseb.) Hitchc. (Poaceae) (Maulik, 1937; McCallan, 1954; Sanderson, 1967; Takizawa, 2003; Virkki, Santiago-Blay, & Riley, 1992). It has also been reported from *Terminalia catappa* L. (Combretaceae) and *Crotalaria* (Fabaceae) (Martorell, 1976; Wolcott, 1936), but Virkki, Santiago-Blay, & Riley (1992) apparently questioned the validity of these associations.

***Chalepus walshii* (Crotch).** This species is associated with Poaceae, including *Bromus*, *Hystrix patula* Moench [*Elymus hystrix* L.], and *Elymus villosus* Muhl. ex Willd. (Ford & Cavey, 1985; Thomas & Werner, 1981; Wickham, 1902). In previously unpublished investigations, we have collected adults of the subspecies *C. w. sayi* Butte from *Bromus anomalus* Rupr. ex Fourn. in western Texas.

Beyond Poaceae, Wickham (1902) reported *Odontota collaris* (Say), a synonym of *C. w. sayi*, from *Bigelovia* [*Bigelowia*] (Asteraceae). However, this is probably not a food plant.

***Charidotella bifossulata* (Boheman).** This species has been recorded from *Ipomoea murucoides* Roem & Schult. and *I. wolcottiana* Rose (Convolvulaceae) (Borowiec, 1999; Noguera, 1988; Riley *et al.*, 2001).

***Charidotella emarginata* (Boheman).** This species, including populations in Latin America, is associated with Convolvulaceae, having been recorded from sweet potato [*Ipomoea batatas* (L.) Lam.], *Ipomoea hirsutula* Jacq. f., *I. murucoides* Roem & Schult., *I. pedicellaris* Benth., and *Pharbitis cathartica* (Poiv.) Choisy (Brisley, 1925; Moldenke, 1971). It has also been reported from *Vernonia* (Asteraceae), *Brassica* (Brassicaceae), *Sechium edule* (Jacq.) Sw. (Cucurbitaceae), mesquite [*Prosopis*] (Fabaceae), and *Coffea arabica* L. (Rubiaceae) (Ballou, 1936; Maes & Staines, 1991; Moldenke, 1971; Ward *et al.*, 1977), but these occurrences were likely incidental.

***Charidotella ormondensis* (Blatchley).** This species has been collected from wild morning-glory [likely *Calystegia*, *Convolvulus*, or *Ipomoea*] (Convolvulaceae) (Blatchley, 1920a, 1924a; Sanderson, 1957).

***Charidotella purpurata* (Boheman).** This species feeds on Convolvulaceae, having been reported from *Calystegia sepium* (L.) R. Br., *Convolvulus arvensis* L., and *Ipomoea pandurata* (L.) G. F. W. Mey. (Balsbaugh & Hays, 1972; Barber, 1916, 1924a; Borowiec, 1999; Chittenden, 1892; Clark, 2000; Défago *et al.*, 2001; Downie & Arnett, 1996; Dozier, 1918, 1920; Dussourd & Denno, 1991; Julien & Griffiths, 1998; Kirk & Balsbaugh, 1975; Riley & Enns, 1979).

This beetle species has also been reported from oak [*Quercus*] (Fagaceae) and buckeye [*Aesculus*] (Hippocastanaceae) (Dozier, 1918, 1920). However, Blatchley (1924a) stated that these associations may have been based on misidentified beetles. In any case, these plants are not normal hosts of *C. purpurata* or any other tortoise beetles from the United States or Canada.

***Charidotella sexpunctata* (Fabricius).** This species, often cited as *Metriorhiza bicolor* (Fabricius) which is now considered a subspecies of *C. sexpunctata*, feeds on Convolvulaceae, including *Calystegia sepium* (L.) R. Br., *C. spithamea* (L.) Pursh, *Convolvulus arvensis* L., *Ipomoea arborescens* (Humb. & Bonpl. ex

Willd.) G. Don, *I. batatas* (L.) Lam., *I. cairica* (L.) Sweet, *I. crassicaulis* (Benth.) B. Robins., *I. hederifolia* L., *I. lacunosa* L., *I. leptophylla* J. Torr., *I. pandurata* (L.) G. F. W. Mey., *I. pes-caprae* (L.) R. Br., *I. purpurea* (L.) Roth, *I. tricolor* Cav., *I. trifida* (Kunth) G. Don, *Merremia aegyptia* (L.) Urb., and *M. quinquefolia* (L.) Hallier f. (Arnett, 1985; Balsbaugh & Hays, 1972; Balsbaugh *et al.*, 1981; Barber, 1916; Barrows, 1979; Beutenmüller, 1890a; Blatchley, 1910, 1924a; Borowiec, 1998, 1999; Buzzi, 1994; Carr, 1988; Chaboo & Borowiec, 2003; Chagnon, 1939; Chagnon & Robert, 1962; Chittenden, 1912b; Clark, 2000; Crosby & Leonard, 1918; Dearborn & Donahue, 1993; Dillon & Dillon, 1961; Downie & Arnett, 1996; Dozier, 1918; Dussourd & Denno, 1991; Essig, 1915b, 1958; Gibson, 1928; Hamilton, 1895; Harrington, 1883; Harris, 1841, 1863; Hatch, 1971; Julien & Griffiths, 1998; Kirk, 1969, 1970; Kirk & Balsbaugh, 1975; Klots & Klots, 1972; LeBlanc, 1986; Lugg, 1899; MacGregor & Gutiérrez, 1983; Maes & Staines, 1991; Metcalf & Metcalf, 1993; Milliron, 1958; Mohyuddin, 1969a, 1969b; Morris, 1914a, 1914b; Noguera, 1988; Olmstead & Denno, 1992, 1993; Orton & Chittenden, 1917; Packard, 1877, 1888; Pallister, 1953; Peck & Thomas, 1998; Pirone, 1970; Riley, 1870c; Riley & Enns, 1979; Riley *et al.*, 2001; Sanderson, 1899; Sanderson & Peairs, 1931; Scott *et al.*, 1932; Smith, 1893a, 1900, 1910a, 1910b, 1938, 1943, 1950; Sorensen & Baker, 1983; Swain, 1948; Swan & Papp, 1972; Vasconcellos-Neto, 1988; Virkki & Santiago-Blay, 1998; Virkki, Santiago-Blay, & Riley, 1992; Walsh & Riley, 1869c, 1869e; Weigel & Baumhofer, 1948; Westcott, 1946; Wickham, 1897, 1902; Wilcox, 1954; Williams, 1988b; Windsor *et al.*, 1992; Woodruff, 1976b).

In an interesting report, Smith (1938) recorded larvae of this beetle species feeding on aphids that occurred on the foliage of bindweed [likely *Calystegia*, *Convolvulus*, or *Ipomoea*]. Beyond these associations, Rodríguez (1993) recorded “*Charidotella* sp. nr. *sexpunctata*” from Costa Rica in association with *Ipomoea alba* L.

In previously unpublished observations, we have associated California populations of *Charidotella s. bicolor* with *Calystegia longipes* (S. Watson) Brummit and *C. macrostegia* (E. Greene) Brummitt. We have collected adults of *Charidotella s. sexpunctata* from *Ipomoea alba* and *I. amnicola* Morong, in southern Texas. Additionally, we have identified adults of *C. s. sexpunctata* that were collected by Thomas O. Robbins from *Ipomoea cordatotriloba* Dennst. in central Texas.

Cassida pallida Herbst, a name of uncertain identity, has been reported in association with morning-glory [likely *Calystegia*, *Convolvulus*, or *Ipomoea*] and *Ipomoea batatas* (Riley, 1870c; Walsh, 1886a, 1866c, 1869e). These associations were probably based on populations of *C. sexpunctata* or of similar species.

Popenoe (1878) recorded *C. sexpunctata* from Kansas in association with *Ipomoea leptophylla*. However, Barber (1916) stated that this report may have been based on misidentified insects.

In the United States or Canada, *C. sexpunctata* has also been reported from *Rhus glabra* L., *Schinus terebinthifolius* Raddi (Anacardiaceae); *Asimina parviflora* (Michx.) Dun. (Annonaceae); *Daucus carota* L. (Apiaceae); *Philodendron selloum* K. Koch [*P. bipinnatifidum* (Schott) Schott], *P. oxycardium* Schott [*P. scandens* K. Koch & Sello] (Araceae); *Asclepias syriaca* L. (Asclepiadaceae); horseradish [*Armoracia rusticana* (Lam.) P. G. Gaertn., B. Mey., & Scherb.] (Brassicaceae); hop [*Humulus*] (Cannabaceae); *Cucumis sativus* L. (Cucurbitaceae); *Sapium sebiferum* (L.) Roxb. (Euphorbiaceae); *Cercis canadensis* L., *Gleditsia triacanthos* L., soybean [*Glycine max* (L.) Merr.], lespedeza [*Lespedeza*], alfalfa [*Medicago sativa* L.] (Fabaceae); oak [*Quercus*] (Fagaceae); hickory [*Carya*] (Juglandaceae); *Hibiscus rosa-sinensis* L. (Malvaceae); *Ficus* (Moraceae); *Pimenta officinalis* Lindl. [*P. dioica* (L.) Merr.] (Myrtaceae); *Ligustrum japonicum* Thunb. (Oleaceae); *Oenothera* (Onagraceae); passion flower [*Passiflora*] (Passifloraceae); Johnson grass [*Sorghum halepense* (L.) Pers.], sorghum [*Sorghum*] (Poaceae); phlox [*Phlox*] (Polemoniaceae); dock [*Rumex*], sour dock [*Rumex*] (Polygonaceae); *Aquilegia* (Ranunculaceae); *Malus x domestica* Borkh. [*M. sylvestris* P. Mill.], pear tree [*Pyrus*], rose [*Rosa*] (Rosaceae); *Gardenia jasminoides* J. Ellis (Rubiaceae); *Citrus sinensis* (L.) Osbeck (Rutaceae); *Litchi chinensis* Sonn. (Sapindaceae); green pepper [*Capsicum annuum* L.], chili [*Capsicum*], tomato [*Lycopersicon esculentum* Mill.], *Solanum dulcamara* L., *S. melongena* L., potato [*S. tuberosum* L.] (Solanaceae); *Camellia* (Theaceae); and *Vitis rotundifolia* Michx. (Vitaceae) (Anonymous, 1958h, 1965b, 1970f; Arnett, 1985; Barber, 1916; Bickensstaff & Huggans, 1962; Blatchley, 1910; Boiteau, 1983a; Brown *et al.*, 1988; Bruce, 1958; Burke *et al.*, 1974; Carr, 1988; Cockerell, 1902; Cook, 1965a, 1965b; Crosby & Leonard, 1918; Dailey *et al.*, 1978; Deitz *et al.*, 1976; Dickerson & Weiss, 1920; Dillon & Dillon, 1961; Dozier, 1918; Essig, 1915b; Felt, 1916; Harris, 1841, 1863; Johnson, 1915; Kirk, 1970; Lago & Mann, 1987; Lee, 1949; McGiffin & Neunzig, 1985; Nielsen, 1958; Mohyuddin, 1969b; Patch, 1913; Riley, 1870c; Smith, 1938; Sorensen & Baker, 1983; Swan & Papp, 1972; Walsh & Riley, 1869c, 1869e; Weigel & Baumhofer, 1948; Weiss & Dickerson, 1921; Wickham, 1902; Woodruff, 1976b). However, in spite of some mention of feeding, at least most of these associations were almost certainly adventitious. Some of them may have been based on misidentification. Beyond these records, beetles are reported to hibernate in Spanish moss [*Tillandsia usneoides* (L.) L.] (Bromeliaceae), but this was not inferred to be a food plant (Blatchley, 1924a; Woodruff, 1976b).

Additional non-convolvulaceous associations have been reported from Latin America: *Brassica* (Brassicaceae); *Billia columbiana* Planch. & Linden (Hippocastanaceae); *Persea* (Lauraceae); *Gossypium* (Malvaceae); *Bougainvillea* (Nyctaginaceae); *Sesamum* (Pedaliaceae); *Oryza*, corn [*Zea mays* L.] (Poaceae); *Coffea* (Rubiaceae); and “cítricos” [*Citrus*] (Rutaceae) (Dominguez & Carrillo, 1976; Flowers, 1991; Maes & Staines, 1991; Martorell, 1939). These occurrences were also probably incidental.

Under experimental conditions, adults have nibbled minimally on *Dioscorea discolor* Kunth, *D. sativa* L. [*D. esculenta* (Lour.) Burkill] (Dioscoreaceae); *Datura stramonium* L. and *Hyoscyamus niger* L. (Solana-ceae) (Mohyuddin, 1969b). Even so, these are probably not natural hosts.

***Charidotella succinea* (Boheman).** In Central America, this species has been associated with Convol-vulaceae (genus not specified) (Windsor *et al.*, 1992). Also in Central America, it has been reported from *Coffea* (Rubiaceae) (Maes & Staines, 1991), but this occurrence was probably adventitious.

***Charidotella tuberculata* (Fabricius).** A single specimen of this Latin American species has been re-ported from Illinois (Balsbaugh & Riley, 1980), but it is extremely doubtful that *C. tuberculata* is established there. Hosts are probably Convolvulaceae, and it has been speculated that this species might feed on *Con-volvulus arvensis* L. and *Ipomoea batatas* (L.) Lam. if the beetles were to become established in the United States (Balsbaugh & Riley, 1980). This beetle species has also been recorded from *Chromolaena odorata* (L.) R. M. King & H. Rob. (Asteraceae) (Borowiec, 1999).

***Chelymorphe cassidea* (Fabricius).** This species, often cited as *C. argus* (Lichtenstein) and some-times incorrectly called *C. cribraria* (Fabricius) by early authors, is associated with Convolvulaceae, having been reported from *Calystegia sepium* (L.) R. Br., *Convolvulus arvensis* L., moonflower [*Ipomoea alba* L.], *Ipomoea batatas* (L.) Lam., *I. biloba* Forssk., *I. hirsutula* Jacq. f., *I. leptophylla* J. Torr., *I. pandurata* (L.) G. F. W. Mey., *I. pes-caprae* (L.) R. Br., and *I. tricolor* Cav. (Balsbaugh & Hays, 1972; Balsbaugh *et al.*, 1981; Barber, 1916; Beller & Hatch, 1932; Beutenmüller, 1890a; Blatchley, 1910, 1920a, 1924a; Borowiec, 1999; Brimley, 1938; Britten *et al.*, 2003; Chagnon, 1939; Chagnon & Robert, 1962; Chittenden, 1897b, 1924a; Clark, 2000; Cockerell, 1900; Cotton, 1918; Crosby & Leonard, 1918; Dearborn & Donahue, 1993; Défago *et al.*, 2001; Dillon & Dillon, 1961; Douglass, 1929; Downie & Arnett, 1996; Dussourd & Denno, 1991; Ed-wards, 1949; Essig, 1958; Felt, 1902a; Forbes, 1905; Gibson, 1928; Hamilton, 1895; Harrington, 1879, 1883; Hatch, 1971; Jaques, 1951; Johnson, 1927; Julien & Griffiths, 1998; Kirk, 1970; Knowlton, 1939; Lawson, 1991; Lintner, 1887; Löding, 1945; Martorell, 1976; Metcalf & Metcalf, 1993; Mohyuddin, 1969a, 1969b; Morris, 1914a, 1914b; Neiswander, 1931; Olmstead & Denno, 1992; Papp, 1984; Peck & Thomas, 1998; Peterson, 1960; Pirone, 1970; Proctor, 1938, 1946; Puttler & Long, 1983; Riley & Enns, 1979; Sanderson, 1899; Sanderson & Peairs, 1931; Smith, 1900, 1910a, 1938, 1950; Sorensen & Baker, 1983; Swan & Papp, 1972; Takizawa, 2003; Ulke, 1903; Weiss & Dickerson, 1921; Westcott, 1946; Wickham, 1902; Wilcox, 1954; Wolcott, 1936, 1951). Under experimental conditions, *Chelymorphe cassidea* has also fed on *Calys-tegia spithamea* (L.) Pursh (Mohyuddin, 1969b). In the closely related family Cuscutaceae, *Cuscuta* is also reported to be a host (Downie & Arnett, 1996; Hatch, 1971; Wilcox, 1979).

This beetle species has also been reported in association with plants in other families: dogbane [*Apocy-num*] (Apocynaceae); *Asclepias syriaca* L. (Asclepiadaceae); sunflower [*Helianthus*], *Solidago* (Asteraceae); horseradish [*Armoracia rusticana* (Lam.) P. G. Gaertn., B. Mey., & Scherb.], *Brassica nigra* (L.) W. D. J. Koch, *B. oleracea* L. (Brassicaceae); watermelon [*Citrullus lanatus* (Thunb.) Matsum. & Nakai], cantaloupe [*Cucumis melo* L.], cucumber [*C. sativus* L.] (Cucurbitaceae); *Euphorbia marginata* Pursh (Euphorbiaceae); *Lathyrus*, pea [likely *Pisum sativum* L.] (Fabaceae); *Lilium henryi* Baker (Liliaceae); *Plantago* (Plantagina-ceae); broomsedge [*Andropogon virginicus* L.], barley [*Hordeum*], timothy [*Phleum*], *Zea mays* L. (Poaceae); meadowrue [*Thalictrum*] (Ranunculaceae); *Fragaria*, *Rosa*, *Rubus* (Rosaceae); *Solanum dulcamara* L., *S. elaeagnifolium* Cav. (Solanaceae); nettle [likely *Urtica*] (Urticaceae); and grape [*Vitis*] (Vitaceae) (Andrews, 1923; Blatchley, 1910; Barber, 1916; Beller & Hatch, 1932; Brisley, 1925; Chittenden, 1897b, 1924a; Cock-erell, 1897; Comstock, 1925; Crosby & Leonard, 1918; Dearborn & Donahue, 1993; Dillon & Dillon, 1961; Douglass, 1929; Downie & Arnett, 1996; Essig, 1958; Fall & Cockerell, 1907; Felt, 1909; Forbes, 1905; Harrington, 1883; Jaques, 1951; Kirk, 1969; Knowlton, 1939; Lintner, 1887; Lugger, 1899; Matheson, 1944; Mohyuddin, 1969b; Morris, 1914a, 1914b; Neiswander, 1931; Packard, 1888; Papp, 1984; Pirone, 1970; Proctor, 1938, 1946; Riley, 1870c; Smith, 1900, 1910a; Sorensen & Baker, 1983; Swan & Papp, 1972; Walsh & Riley, 1869f; Webster, 1893a; Webster & Mally, 1898; Weiss & Dickerson, 1921; Westcott, 1946; Whelan, 1936; Wilcox, 1954). However, all of these associations were probably incidental, in spite of the fact that some of the reports mentioned feeding and damage to plants. Citing a personal communication from Knab, Barber (1916) stated that numerous non-convolvulaceous host records resulted from the behavior of fully fed larvae to migrate from their true hosts to pupation sites on other plants. Even so, adults have nibbled experi-mentally on *Dioscorea discolor* Kunth, *D. sativa* L. [*D. esculenta* (Lour.) Burkill] (Dioscoreaceae); *Portulaca* (Portulacaceae); and *Datura stramonium* L. (Solana-ceae) (Mohyuddin, 1969b).

Blatchley (1924a) reported that this beetle species hibernates in Spanish moss [*Tillandsia usneoides* (L.) L.] (Bromeliaceae). However, he did not infer that this was a food plant.

***Chelymorpha cribraria* (Fabricius).** This species, including populations in Latin America, is associated with Convolvulaceae, having been recorded from *Ipomoea aristolochiifolia* G. Don, *I. batatas* (L.) Lam., *I. cairica* (L.) Sweet, *I. cardiophylla* A. Gray, *I. imperati* (Vah.) Griseb., *I. indica* (Burm. f.) Merr., *I. pes-caprae* (L.) R. Br., *I. trifida* (Kunth) G. Don, and *Merremia umbellata* (L.) Hallier f. (Borowiec, 1998, 1999; Buzzi, 1994; Gonçalves & Macêdo, 2003; Martorell, 1976; Peck & Thomas, 1998; Takizawa, 2003; Thomas, 1994; Vasconcellos-Neto, 1988; Vasconcellos-Neto & Jolivet, 1994; Wolcott, 1936, 1951).

In Puerto Rico, this beetle species has been reported from *Saccharum officinarum* L. (Poaceae) and *Solanum melongena* L. (Solanaceae) (Martorell, 1976; Wolcott, 1936, 1951). However, these occurrences were almost certainly adventitious.

***Chelymorpha phytophagica* Crotch.** Douglass (1929) associated “*C. cassidea* var. *phytophagica* Cr.” from Kansas with bush morning glory [*Ipomoea leptophylla* J. Torr.] (Convolvulaceae). However, Kansas is somewhat beyond the generally recognized range of *C. phytophagica*, and the identity of the insects is therefore doubtful. Townsend (1895) reported *C. phytophagica* from *Helianthus annuus* L. (Asteraceae), but this association was probably adventitious.

***Chlamisus arizonensis* (Linell).** In previously unpublished investigations, we have seen a specimen of *C. arizonensis* labeled from Arizona in association with *Quercus hypoleucoides* A. Camus (Fagaceae).

***Chlamisus flavidus* Karren.** A specimen has been collected in Mexico from *Larrea divaricata* Cav. (Zygophyllaceae) (Karren, 1972).

***Chlamisus foveolatus* (Knoch).** This species has been recorded from *Toxicodendron radicans* (L.) Kuntze (Anacardiaceae) and *Quercus bicolor* Willd. (Fagaceae) (Funk, 1999; Furth, 1985; Karren, 1972; Riley *et al.*, 2002; Wilcox, 1979). Beyond this, Foster *et al.* (1981) found larvae and adults of “*Chlamisus* sp. nr. *foveolatus*” commonly on *Gutierrezia sarothrae* (Pursh) N. L. Britt. & Rusby (Asteraceae). In previously unpublished investigations, we have identified one adult specimen that is labeled from Missouri in association with *Quercus alba* L. (Fagaceae).

***Chlamisus maculipes* (Chevrolat).** This species has been reported in association with *Verbesina fraseri* Hemsl. (Asteraceae), *Ipomoea pedicellaris* Benth. (Convolvulaceae), and *Malvaviscus drummondii* T. & G. (Malvaceae) (Karren, 1972; Moldenke, 1971; Townsend, 1902).

***Chlamisus quadrilobatus* (Schaeffer).** This species has been recorded from *Melampodium divaricatum* (Rich. ex Pers.) DC. (Asteraceae); *Mimosopsis aculeaticarpa* (Ortega) Britton & Rose (Fabaceae); *Hyptis pectinata* (L.) Poir., *Salvia alba* Jacq. (Lamiaceae); *Sida glutinosa* Comm. ex Cav. (Malvaceae); and *Waltheria americana* L. (Sterculiaceae) (Karren, 1972; Riley *et al.*, 2002).

***Chrysochus auratus* (Fabricius).** Normal hosts are species of *Apocynum* (Apocynaceae), including *A. androsaemifolium* L. and *A. cannabinum* L. (Andrews, 1923; Arnett, 1985; Arnett & Jacques, 1981; Balsbaugh & Hays, 1972; Beutenmüller, 1890a; Bland & Jaques, 1978; Blatchley, 1910; Borror & White, 1970; Borror *et al.*, 1989; Chagnon, 1917, 1937; Chagnon & Robert, 1962; Chittenden, 1892; Clark, 2000; Craighead, 1923; Dearborn & Donahue, 1993; Dillon & Dillon, 1961; Dobler & Farrell, 1999; Dobler *et al.*, 1998; Downie & Arnett, 1996; Dussourd & Denno, 1991; Dussourd & Eisner, 1987; Edwards, 1949; Everly, 1938; Felt, 1901; Harrington, 1883; Harris, 1841, 1863; Hatch, 1924a, 1971; Hendrickson, 1930b; Jaques, 1951; Jolivet, 1971, 1982, 1987b; Jolivet & Hawkeswood, 1995; Jolivet & Verma, 2002; Kirk & Balsbaugh, 1975; Lugger, 1899; Morris, 1914a, 1914b; Packard, 1888; Pallister, 1953; Peterson, 1960; Peterson *et al.*, 2001; Popenoe, 1877; Quayle, 1908b; Riley & Enns, 1979; Riley *et al.*, 2002; Schultz, 1970; Smith, 1900, 1910a; Ulke, 1903; Vestal, 1913; Weiss & West, 1922; Wickham, 1896a; Wilcox, 1954, 1979; Williams, 1988b, 1988c, 1991a, 1992; Wilson, 1934; Zabriskie, 1895). In previously unpublished field work in both Arkansas and Missouri, we have associated this beetle species with *A. x floribundum* Greene.

These insects have also been reported in association with *Asclepias syriaca* L. and *Vincetoxicum officinale* Moench (Asclepiadaceae) (Arnett, 1985; Arnett & Jacques, 1981; Bland & Jaques, 1978; Blatchley, 1910; Borror & White, 1970; Borror *et al.*, 1989; Dailey *et al.*, 1978; Dobler *et al.*, 1998; Dozier, 1922; Edwards, 1949; Hatch, 1924b, 1971; Horn, 1892; Jaques, 1951; Jolivet, 1971, 1987b, 1982; Jolivet & Hawkeswood, 1995; Kirk & Balsbaugh, 1975; Löding, 1945; Morris, 1914a, 1914b; Peterson, 1960; Russell, 1968; Schultz, 1970; Smith, 1900, 1910a, 1943; Weiss & West, 1922; Wilcox, 1954; Williams, 1988c; Wilson, 1934).

Beyond this, *C. auratus* has been reported from cucumber [*Cucumis sativus* L.] (Cucurbitaceae); pecan [*Carya illinoensis* (Wang.) K. Koch] (Juglandaceae); sorghum [*Sorghum*], corn [*Zea mays* L.] (Poaceae); *Prunus persica* (L.) Batsch (Rosaceae); and potato [*Solanum tuberosum* L.] (Solanaceae) (Beirne, 1971; Douglass, 1929; Everly, 1938; Jolivet, 1982; Lintner, 1888; Newell & Smith, 1905; Patch, 1913; Weiss & West, 1922). However, these are certainly not normal hosts. As noted by Williams (1988c), reports of damage to *Carya illinoensis* were in error. Bickenstaff & Huggans (1962) included *C. auratus* in a list of insects

collected from soybean [*Glycine max* (L.) Merr.] (Fabaceae), but this should not be interpreted as a host association.

Jolivet (1982) stated that *C. auratus* lives on *Nerium oleander* L. (Apocynaceae). However, earlier (Jolivet, 1971), he indicated that the occurrence on this plant in western states and provinces may have been incidental. Moreover, western beetles were likely *C. cobaltinus* LeConte rather than *C. auratus*.

***Chrysochus cobaltinus* LeConte.** Usual hosts are species of *Asclepias* (Asclepiadaceae), including *A. eriocarpa* Benth., *A. galioides* Kunth, *A. mexicana* Cav., and *A. speciosa* J. Torr. (Anonymous, 1953b; Arnett, 1985; Arnett & Jacques, 1981; Beller & Hatch, 1932; Carr, 1988; Dickinson, 1995; Dobler & Farrell, 1999; Dobler *et al.*, 1998; Essig, 1915b, 1958; Fall, 1901; Hatch, 1971; Hogue, 1993; Horn, 1892; Hsiao, 1986; Isman *et al.*, 1977; Moore, 1937; Peterson *et al.*, 2001; Riley *et al.*, 2002; Sady, 1994; Schultz, 1970; Tanner, 1928). In previously unpublished investigations, we have associated California populations with *A. californica* E. L. Greene.

This beetle species has also been recorded from *Apocynum androsaemifolium* L., *A. cannabinum* L., *A. viride* Wootton & Standley, and *Nerium oleander* L. (Apocynaceae) (Arnett, 1985; Arnett & Jacques, 1981; Beller & Hatch, 1932; Brisley, 1925; Carr, 1988; Dobler & Farrell, 1999; Dobler *et al.*, 1998; Essig, 1915b, 1958; Hatch, 1971; Peterson *et al.*, 2001; Russell, 1968; Weiss & Dickerson, 1921).

Beyond this, *C. cobaltinus* has been reported from *Gutierrezia* (Asteraceae); sugar beet [*Beta vulgaris* L.] (Chenopodiaceae); *Prunus galatensis* Poir., *P. persica* (L.) Batsch (Rosaceae); and potato [*Solanum tuberosum* L.] (Solanaceae) (Anonymous, 1967g; Beller & Hatch, 1932; Carr, 1988; Essig, 1915b, 1958; Knowlton & Smith, 1935; Riley & Howard, 1890c; Schultz, 1970; Vertrees, 1966). However, in spite of mention of feeding and severe damage, these are not normal hosts.

***Chrysodinopsis basalis* (Jacoby).** Schultz (1970) recorded material that was labeled as feeding on *Ambrosia confertiflora* DC. (Asteraceae), and he also reported material labeled from mesquite [*Prosopis*] (Fabaceae).

***Chrysolina auripennis* (Say).** In previously unpublished investigations in tallgrass prairies in Missouri, we have found adults feeding at night on floral parts and young developing leaves of *Pycnanthemum tenuifolium* Schrad. (Lamiaceae). In western Texas, we have collected adults from *Monarda punctata* var. *coryi* (McClintock & Epling) Shinnars (Lamiaceae). Andrew H. Williams (pers. comm.), working in Wisconsin, has also associated *C. auripennis* with *Monarda punctata*.

In published reports, this beetle species has been reported from prickly-pear cactus [*Opuntia*] (Cactaceae) (Blatchley, 1910; Downie & Arnett, 1996; Hunter *et al.*, 1912). Also, Webster (1881) included it in a list of chrysomelids observed on either *Salix discolor* Muhl. or *S. petiolaris* J. E. Sm. (Salicaceae). Additionally, Kirk & Balsbaugh (1975) recorded material collected from “under rock on sod.” However, sod [Poaceae] is probably not a food plant. This beetle species has also been collected by sweeping sumac [*Rhus*] (Anacardiaceae) (Downie & Arnett, 1996). All of these occurrences were probably incidental.

***Chrysolina basilaris* (Say).** The host of this species is probably some species of Asteraceae (Jolivet & Petitpierre, 1976a).

***Chrysolina cavigera* (Sahlberg).** This species, including Palearctic populations, feeds on *Parrya nudicaulis* (L.) Rogel (Brassicaceae) (Chernov *et al.*, 1994; Khruleva, 1996; Medvedev, 1996b; Riley *et al.*, 2002).

***Chrysolina extorris* Brown.** The host is reported to be *Hymenoclea salsola* J. Torr. & A. Gray. (Asteraceae) (Jolivet, 1992). Beyond this, Dixon & Helmsteller (1978) recorded beetles from grass [Poaceae], but this plant is probably not a host.

***Chrysolina fastuosa* (Scopoli).** Balsbaugh (1985) reported a single specimen of *C. fastuosa* labeled from Pennsylvania, but it is extremely doubtful that this species is established there. Old World hosts are Lamiaceae, including *Ballota*, *Galeopsis angustifolia* Ehrh. ex Hoffm., *G. ladanum* L., *G. tetrahit* L., *Lamium album* L., *L. maculatum* (L.) L., *Leonurus*, *Melissa*, *Prunella vulgaris* L., and *Stachys* (Balsbaugh, 1985; Fabricius, 1792, 1801; Garin *et al.*, 1999; Jolivet & Petitpierre, 1976a; Jolivet *et al.*, 1986; Kippenberg & Döberl, 1994; Mohr, 1966; Steinhausen, 1996; Vig, 1992b, 1996, 1997; Vig & Rozner, 1996).

Also in the Old World, this beetle species has been reported from *Euphorbia virgata* Waldst. & Kit. (Euphorbiaceae), *Ribes uva-crispa* L. (Grossulariaceae), *Lythrum salicaria* L. (Lythraceae), and *Urtica* (Urticaceae) (Campobasso *et al.*, 1999; Jolivet *et al.*, 1986; Vig, 1996, 1997; Vig & Rozner, 1996). At least some of these occurrences were probably incidental.

***Chrysolina flavomarginata* (Say).** This species is associated with Asteraceae, having been recorded from *Artemisia dracunculus* L., *A. glauca* Pall. ex Willd., snakeweed [*Gutierrezia*], and *Aster multiflorus* Ait. [*Symphotrichum ericoides* var. *ericoides* (L.) Nesom] (Abdullah & Qureshi, 1969; Baker, 1895; Brown, 1962; Clark, 2000; Hatch, 1971; Jolivet, 1975, 1992; Jolivet & Petitpierre, 1976a; Lawson, 1976b; Leech, 1943; Van Dyke, 1938a; Wickham, 1902; Wilcox, 1972, 1979).

***Chrysolina hudsonica* Brown.** This species has been associated with *Achillea* and *Tanacetum* (Asteraceae).

ceae) (Abdullah & Qureshi, 1969; Brown, 1962; Downie & Arnett, 1996; Jolivet, 1975, 1992; Jolivet & Petitpierre, 1976a; Jolivet *et al.*, 1986; Silfverberg, 1994; Wilcox, 1972, 1979). It has also been recorded from *Salix* (Salicaceae) (Van Dyke, 1938a; Wilcox, 1972, 1979). However, as noted by Brown (1962), Jolivet (1992), and Jolivet *et al.* (1986), reports of feeding on *Salix* are in error.

***Chrysolina hyperici* (Forster).** This species, including Old World populations, feeds on *Hypericum* (Clusiaceae), having been reported from *H. androsaemum* L., *H. maculatum* Cr., *H. degeneri* Fosberg [*H. parvulum* Greene], *H. perforatum* L., and *H. tetrapterum* Fries (Anaya-Rosales *et al.*, 1987; Biondi, 1993; Brown, 1962; Cameron, 1935; Campbell & McCaffrey, 1991; Campobasso *et al.*, 1999; Carr, 1988; Cashmore & Campbell, 1946; Clausen, 1978; Currie & Garthside, 1932; Ebeling, 1959; Fields *et al.*, 1988; Forster, 1771; Furniss & Carolin, 1977; Gassmann, 1995; Harris *et al.*, 1969; Hatch, 1971; Hoebeke, 1993; Holloway, 1948, 1964; Holloway & Huffaker, 1951, 1952; Huffaker, 1959; Jolivet, 1975, 1992, 2001; Jolivet & Petitpierre, 1976a, 1980; Jolivet & Verma, 2002; Julien & Griffiths, 1998; Kippenberg & Döberl, 1994; LeSage 1996b; Marshall, 1979; Mohr, 1966; Morrison *et al.*, 1998; Paterson, 1931; Pemberton & Hoover, 1980; Riley *et al.*, 2002; Smith, 1947, 1958; Strauss, 1988; Swan & Papp, 1972; Vail *et al.*, 2001; Vig, 1992b; White, 1983, 1996b; Wilcox, 1972; Wilson, 1943; Yoshioka, 1970). Under experimental conditions, *C. hyperici* has also fed on *H. boreale* (N. L. Britt.) Bickn., *H. calycinum* L., *H. frondosum* Michx., *H. kalmianum* L., *H. moseranum* Andre, *H. olympicum* L., and *H. spathulatum* (Spach) Steud. [*H. prolificum* L.] (Paterson, 1931; Smith, 1958).

Campobasso *et al.* (1999) reported *C. hyperici* from *Carduus nutans* L. (Asteraceae). However, this occurrence was probably incidental.

***Chrysolina inornata* (Rogers).** The host of this species, sometimes cited as the synonym *C. subopaca* (Rogers), is probably *Satureja rigida* Bartr. ex Benth. (Lamiaceae) (Flowers *et al.*, 1994; Jolivet, 1992; Peck & Thomas, 1998). However, these beetles have also been reported from thistle [likely *Carduus* or *Cirsium*] (Asteraceae), rape [*Brassica napus* L. or *B. rapa* L.] (Brassicaceae), and cactus [Cactaceae] (Blatchley, 1924a; Flowers *et al.*, 1994; Van Dyke, 1938a).

***Chrysolina marginata* (Linnaeus).** Chernov *et al.* (1994) associated Palearctic populations with *Artemisia borealis* Pall. and *A. tilesii* Ledeb. (Asteraceae).

***Chrysolina quadrigemina* (Suffrian).** This introduced Palearctic species, sometimes erroneously cited as *C. gemellata* (Rossi), feeds on species of *Hypericum* (Clusiaceae), including *H. degeneri* Fosberg [*H. parvulum* Greene], *H. perforatum* L., *H. punctatum* Lam., and *H. tomentosum* L. (Anaya-Rosales *et al.*, 1987; Balsbaugh *et al.*, 1981; Brown, 1962; Campbell & McCaffrey, 1991; Carr, 1988; Cashmore & Campbell, 1946; Clark, 2000; Clausen, 1978; Currie & Garthside, 1932; Davidson & Lyon, 1987; Davis, 1970; Ebeling, 1959; Fields *et al.*, 1988; Foote, 1960; Furniss & Carolin, 1977; Garin *et al.*, 1999; Gassmann, 1995; Harris *et al.*, 1969; Hatch, 1971; Hoebeke, 1993; Holloway, 1948, 1964; Holloway & Huffaker, 1951, 1952; Huffaker, 1959; Jolivet, 1975, 1992, 2001; Jolivet & Petitpierre, 1976a, 1980; Jolivet & Verma, 2002; Julien & Griffiths, 1998; Kippenberg & Döberl, 1994; Morrison *et al.*, 1998; Pedigo, 1996; Peschken, 1972; Riley *et al.*, 2002; Rogers, 1976; Russell, 1968; Smith, 1947, 1958; Strauss, 1988; Swan & Papp, 1972; Vail *et al.*, 2001; White, 1983, 1996b; Wilcox, 1972; Wilson, 1943). Under experimental conditions, “*C. gemellata*” has also fed on *H. boreale* (N. L. Britt.) Bickn., *H. calycinum* L., *H. frondosum* Michx., *H. kalmianum* L., *H. moseranum* Andre, *H. olympicum* L., and *H. spathulatum* (Spach) Steud. [*H. prolificum* L.] (Smith, 1958).

***Chrysolina schaefferi* Brown.** This species, cited as the synonym *C. cyanea* (Schaeffer), is reported to occur on Lamiaceae (genus not specified) (Jolivet, 1992). Additionally, *C. schaefferi* has been reported from *Salix* (Salicaceae) (Carr, 1988).

***Chrysolina staphylaea* (Linnaeus).** This species, including populations in the Eastern Hemisphere, has been reported from *Achillea millefolium* L., *Artemisia*, *Bidens cernua* L., *Cynara*, *Hymenoclea*, *Inula*, *Leucanthemum vulgare* Lam., *Silybum*, *Aster tripolium* L. [*Tripolium pannonicum* (Jacq.) Debrecz.] (Asteraceae); *Betula* (Betulaceae); *Hypericum* (Clusiaceae); *Ballota nigra* L., *Galeopsis*, *Lamium*, *Melissa*, *Mentha longifolia* (L.) L., *M. x rotundifolia* (L.) Huds., *M. crispa* L. [*M. spicata* L.], *M. sylvestris* L., *Ocimum*, *Prunella*, *Salvia* (Lamiaceae); *Lythrum* (Lythraceae); *Plantago alata* Nakai, *P. asiatica* L., *P. lanceolata* L., *P. maritima* L. (Plantaginaceae); *Ranunculus acris* L., *R. repens* L., *Trollius asiaticus* L. (Ranunculaceae); *Rhisanthus crista-galli* L. and *Veronica beccabunga* L. (Scrophulariaceae) (Biondi, 1993; Jolivet, 1975, 1990, 1992; Jolivet & Petitpierre, 1976a; Jolivet *et al.*, 1986; Marshall, 1979; Mohr, 1966; Read, 1984; Riley *et al.*, 2002). Under laboratory conditions, *C. staphylaea* has fed upon several of the plants mentioned above, as well as on *Lycopus europaeus* L. and *Mentha aquatica* L. (Lamiaceae) (Knab, 1911; Marshall, 1979).

Beyond the already mentioned records, an association has also been reported for *Staphylea* (Staphyleaceae) (Wilcox, 1979). However, as noted by Jolivet (1990) and Jolivet *et al.* (1986), such reports are in error. In fact, according to Jolivet (1990), many of the above-mentioned plants may not be fed upon, the true hosts apparently being limited to certain Lamiaceae and to *Plantago* and *Ranunculus*.

***Chrysolina subsulcata* (Mannerheim).** This species, including Palearctic populations, is reported to feed naturally on *Carex lugens* Holm and *C. stans* Drejer (Cyperaceae) (Chernov *et al.*, 1994; Jolivet & Verma, 2002; Khruleva, 1994; Medvedev, 1996b, 1998). Large series have also been recorded from *Petasites*, *Senecio* (Asteraceae); *Parrya* (Brassicaceae); and *Oxytropis* (Fabaceae) (Medvedev, 1998; Silfverberg, 1994). Kincaid (1900) and Van Dyke (1938a) recorded the host as dwarf or creeping willow [*Salix*] (Salicaceae), but Jolivet & Petitpierre (1976a) doubted the validity of this association. Kincaid (1900) also reported larvae and pupae from beneath moss [Bryophyta], but this should not be regarded as a food plant. Beyond these records, Chernov *et al.* (1994) reported adults and larvae found in patches of *Oxytropis wrangelii* Jurtzer (Fabaceae) and *Potentilla* (Rosaceae), but they further reported that *Potentilla* was not fed upon in laboratory tests. Caged larvae have fed on *Minuartia*, *Stellaria* (Caryophyllaceae); and *Salix polaris* Wahlenb. (Salicaceae) (Medvedev, 1996b, 1998).

***Chrysolina varians* (Schaller).** This Palearctic species, intentionally released in North America but not thought to be established, feeds on species of *Hypericum* (Clusiaceae), including *H. maculatum* Cr. and *H. perforatum* L. (Bechyné, 1956; Cameron, 1935; Clausen, 1978; Currie & Garthside, 1932; Fabricius, 1801; Garin *et al.*, 1999; Gassmann, 1995; Harris *et al.*, 1969; Hatch, 1971; Hoebeke, 1993; Holloway, 1964; Hufaker, 1959; Jolivet, 1975, 1992, 2001; Jolivet & Petitpierre, 1976a, 1980; Jolivet & Verma, 2002; Julien & Griffiths, 1998; Kanervo, 1937; Kippenberg & Döberl, 1994; Marshall, 1979; Mohr, 1966; Paterson, 1931; Riley *et al.*, 2002; Steinhausen, 1996; Vig, 1996, 1997; Vig & Rozner, 1996; White, 1996b; Wilcox, 1972; Wilson, 1943).

***Chrysomela aeneicollis* (Schaeffer).** Natural hosts are Salicaceae, this species having been recorded from *Populus tremuloides* Michx., *Salix boothi* Dorn., *S. drummondiana* Barratt ex Hook., *S. geyeriana* Anderss., *S. lasiolepis* Benth., *S. lemmonii* Bebb, *S. lutea* Nutt., and *S. orestera* Schneid. (Abdullah & Qureshi, 1969; Brown, 1956, 1958; Carr, 1988; Cranshaw *et al.*, 2000; Furniss & Carolin, 1977; Hatch, 1971; Johnson & Lyon, 1991; Raizenne, 1975; Rank, 1991, 1992a, 1992b, 1994; Rank & Smiley, 1994; Rank *et al.*, 1996; Smiley & Rank, 1986; Smiley *et al.*, 1985; Wade, 1994; Wilcox, 1972). Under experimental conditions, *C. aeneicollis* has fed, at least sparingly, on *Populus trichocarpa* J. Torr. & A. Gray ex Hook., *Salix babylonica* L., *S. lucida* Muhl., and *S. sitchensis* Sanson ex Bong. (Rank *et al.*, 1996).

Beyond Salicaceae, *C. aeneicollis* has been reported from *Alnus* (Betulaceae) (Carr, 1988). However, this association may have been either incidental or based on misidentified beetles.

***Chrysomela blaisdelli* (Van Dyke).** Hosts are species of *Salix* (Salicaceae), including *S. arctica* Pall. (Abdullah & Qureshi, 1969; Brown, 1956; Chernov *et al.*, 1994; Raizenne, 1975; Silfverberg, 1994). Under laboratory conditions, *C. blaisdelli* has been reared on *S. lanata* L., *S. polaris* Wahlenb., *S. pulchra* Cham., and *S. reptans* Rupr. (Chernov *et al.*, 1994).

***Chrysomela confluens* Rogers.** Hosts of this species are Salicaceae, including *Populus angustifolia* James ex Long, *P. fremontii* S. Wats., *P. trichocarpa* J. Torr. & A. Gray ex Hook., and *Salix lasiolepis* Benth. (Abdullah & Qureshi, 1969; Brown, 1956; Carr, 1988; Coyle *et al.*, 2001; Floate & Whitham, 1994; Floate *et al.*, 1993; Furniss, 1972; Hatch, 1971; Kearsley & Whitham, 1992; Knowlton, 1955c; Rank, 1991; Rank *et al.*, 1996; Russell, 1968). In previously unpublished field work, we have collected a series in Utah from *Populus nigra* L. Under experimental conditions, *C. confluens* has also fed, at least sparingly, on *Salix lucida* Muhl., *S. scouleriana* Barratt ex Hook., and *S. sitchensis* Sanson ex Bong. (Rank *et al.*, 1996).

Beyond Salicaceae, this beetle species has been reported from *Alnus* (Betulaceae) (Carr, 1988). However, this association may have been either incidental or based on misidentified insects.

***Chrysomela crotchii* Brown.** The normal host is *Populus tremuloides* Michx., but this beetle species has also been associated with *P. balsamifera* L., *P. deltoides* Marshall, *P. grandidentata* Michx., and *Salix* (all Salicaceae) (Abdullah & Qureshi, 1969; Anonymous, 1963j, 1963l, 1985; Baker, 1972; Brown, 1956; Carr, 1988; Clark, 1993, 2000; Dearborn & Donahue, 1993; Downie & Arnett, 1996; Furniss & Carolin, 1977; Hatch, 1971; Ives & Wong, 1988; Johnson & Lyon, 1991; Kirk & Balsbaugh, 1975; Papp, 1984; Raizenne, 1975; Riley *et al.*, 2002; Russell, 1968; Smereka, 1965; Swan & Papp, 1972).

The Old World species *Chrysomela saliceti* Weise and *C. tremulae* Fabricius have been reported from North America in association with *P. tremuloides* and willow [*Salix*] (Beutenmüller, 1890a; Chagnon, 1938; Chagnon & Robert, 1962; Criddle, 1911, 1913; Davis, 1920; Doane *et al.*, 1936; Essig, 1958; Felt, 1907, 1930; Jaques, 1951; Johnson & Lyon, 1991; Keen, 1938, 1952; Lugger, 1889; MacAloney, 1950; MacGillivray & Houghton, 1902; Riley & Fuller, 1880b; Wilcox, 1954). These reports were almost certainly based on *C. crotchii*.

Beyond Salicaceae, *C. crotchii* (or "*Lina tremulae*") has been reported from sumach [*Rhus*] (Anacardiaceae); alder [*Alnus*], yellow birch [*Betula alleghaniensis* Britt.] (Betulaceae); fir [*Abies*] and spruce [*Picea*] (Pinaceae) (Dearborn & Donahue, 1993; Johnson, 1915). Even so, these occurrences were probably adventitious. Additionally, *C. crotchii* has been reported from small grain fields [Poaceae] (Anonymous, 1963j,

1963l), but this should not be interpreted as a host association.

***Chrysomela falsa* Brown.** Hosts are Salicaceae, including *Populus balsamifera* L., *P. tremuloides* Michx. (rarely), *P. trichocarpa* J. Torr. & A. Gray ex Hook., *Salix arctophila* Cockerell ex A. Heller, and *S. discolor* Muhl. (Abdullah & Qureshi, 1969; Brown, 1956, 1958; Downie & Arnett, 1996; Hatch, 1971; Ives & Wong, 1988; Raizenne, 1975; Wilcox, 1972). In laboratory tests, a small percentage of larvae survived on *Alnus tenuifolia* Nutt. (Betulaceae) (Brown, 1956), but this plant is probably not a significant host under natural conditions.

Malkin (1945) reported the synonym *Chrysomela interrupta* var. *quadriguttata* Schaeffer from willow [*Salix*]. However, this report predates significant taxonomic revision, and the beetle identification is therefore doubtful.

***Chrysomela interrupta* Fabricius.** These beetles, both adults and larvae, feed on species of *Alnus* (Betulaceae), including *A. rugosa* (Du Roi) Spreng. [*A. incana* ssp. *rugosa* (Du Roi) Clausen] and *A. serrulata* (Ait.) Willd. (Abdullah & Qureshi, 1969; Anonymous, 1985; Baker, 1972; Balsbaugh & Hays, 1972; Blum, 1994; Blum *et al.*, 1972; Brimley, 1938; Brown, 1956, 1958; Carr, 1988; Chagnon, 1917, 1938; Chagnon & Robert, 1962; Clark, 2000; Dillon & Dillon, 1961; Downie & Arnett, 1996; Hale & Grant, 2003; Houser, 1918; Johnson & Lyon, 1991; MacAloney, 1950; McDaniel, 1933; Peck & Thomas, 1998; Riley & Enns, 1979; Wilcox, 1954, 1972, 1979; Woodruff, 1965b).

The Old World species *C. lapponica* Linnaeus has been reported from North America in association with alder [*Alnus*] (Felt, 1907; Harrington, 1883; Hatch, 1924b; Smith, 1900, 1910a). No doubt, these reports stemmed from misidentifications of *C. interrupta* or similar species.

In the original description of *C. interrupta*, Fabricius (1801) wrote, “Habitat in Carolinae falice.” However, according to Brown (1956), this association with willow [*Salix*] (Salicaceae) was likely in error. Other authors have also reported this beetle species in association with Salicaceae, including *Populus deltoides* Marshall, Lombardy poplar [*P. nigra* L.], aspen [*Populus*], and weeping willow [*Salix babylonica* L.] (Andrews, 1923; Anonymous, 1965g, 1965h, 1966k, 2001b; Beller & Hatch, 1932; Blatchley, 1910; Brimley, 1938; Carr, 1920, 1988; Davis, 1920; Dillon & Dillon, 1961; Dinkins, 1967; Drew, 1960; Drew & VanCleave, 1959; Edelson & Hyche, 1980; Essig, 1958; Gray & Farrier, 1960; Greene, 1961; Hale & Grant, 2003; Herrick, 1935; Houser, 1918; Johnson & Lyon, 1991; Keen, 1938, 1952; Kirk, 1969; MacAloney, 1950; Malkin, 1945; McDaniel, 1933; Pepper, 1962; Peterson, 1960; H. C. Severin, 1922; Stiles, 1959; Swan & Papp, 1972; VanCleave & Vinson, 1959; Vestal, 1913; Wilcox, 1954). Apparently, *C. interrupta* does occasionally feed on Salicaceae. However, most such reports are almost certainly based on species of *Chrysomela* other than true *C. interrupta*.

Kirk (1970) reported *C. interrupta* eating hazel leaves [*Corylus*] (Betulaceae), but this plant is not a normal host. In other reports, this beetle species has been recorded from *Cercis canadensis* L., *Melilotus alba* Medik. (Fabaceae); sweet corn [*Zea mays* L.] (Poaceae); and tamarix [*Tamarix*] (Tamaricaceae) (Anonymous, 1965g; Everly, 1938; Lee, 1949; Powell, 1932). However, in spite of mention of damage to plants, these occurrences were probably incidental. Moreover, at least some of these reports were likely based on misidentified insects.

***Chrysomela invicta* Brown.** Hosts are reported to be species of *Populus* (Salicaceae), including balsam poplar [*P. balsamifera* L.] and *P. trichocarpa* J. Torr. & A. Gray ex Hook. (Abdullah & Qureshi, 1969; Brown, 1956; Raizenne, 1975; Riley *et al.*, 2002).

***Chrysomela knabi* Brown.** This species normally feeds on *Salix* (Salicaceae), having been recorded from *S. amygdaloides* Anderss., *S. babylonica* L., *S. interior* Rowlee [*S. exigua* ssp. *interior* (Rowlee) Cronquist], *S. fragilis* L., *S. humilis* Marsh., and *S. nigra* Marsh., but it has also been associated with *Populus deltoides* Marshall, *P. grandidentata* Michx., *P. nigra* L., and *P. tremuloides* Michx. (Salicaceae) (Abdullah & Qureshi, 1969; Anonymous, 1985; Baker, 1972; Balsbaugh & Hays, 1972; Brown, 1956, 1958, 1961; Clark, 2000; Cranshaw *et al.*, 2000; Downie & Arnett, 1996; Edelson & Hyche, 1980; Horton, 1989; Ives & Wong, 1988; Lawson, 1991; LeSage, 1996c; Puttler & Long, 1983; Raizenne, 1975; Riley & Enns, 1979; Rouse & Medvedev, 1972; Wilcox, 1972, 1979). In laboratory tests, larvae have fed on some of the above-mentioned plants, as well as on *Populus balsamifera* L. (Brown, 1956; Horton, 1989).

In previously unpublished field work in West Virginia, we have found adults of this beetle species on *Salix sericea* Marsh. In Illinois, we have found adults on *Populus alba* L.

The Old World species *C. lapponica* Linnaeus has been reported from North America in association with Carolina poplar [*Populus x canadensis* Moench], Lombardy poplar [*Populus nigra*], *Salix cordata* Michx., and black willow [*S. nigra*] (Abdullah & Qureshi, 1969; Britton & Zappe, 1927; Bruner, 1890; Chittenden, 1904a; Clark, 2000; Doane *et al.*, 1936; Douglass, 1929; Felt, 1907, 1930; Forbes, 1905; Hamilton, 1894b, 1895; Harrington, 1883; Hopkins, 1893, 1896, 1897b; Jaques, 1951; Johnson, 1927; Keen, 1938, 1952; Löding, 1945; McCracken, 1905; Neiswander, 1931; Packard, 1890; Papp, 1984; Riley, 1884; Riley & Fuller,

1880b; Robertson, 1896a; Smith, 1900, 1910a; Swan & Papp, 1972; Ulke, 1903; Wickham, 1896a; Williams, 1893). Such reports stemmed from misidentifications of *C. knabi* or similar species. Additionally, *C. lapponica* has been reported from North America in association with corn [*Zea mays* L.] (Poaceae) and apple [*Malus sylvestris* P. Mill.] (Rosaceae) (Forbes, 1905; Neiswander, 1931; Douglass, 1929). These associations may have been based on *C. knabi*, but they were probably incidental.

***Chrysomela laurentia* Brown.** Although the food plants are primarily species of *Salix* (Salicaceae), including *S. cordata* Michx., *S. interior* Rowlee [*S. exigua* ssp. *interior* (Rowlee) Cronquist], *S. fragilis* L., *S. lucida* Muhl., and *S. petiolaris* J. E. Sm., this beetle species less often utilizes *Populus alba* L., *P. balsamifera* L., *P. grandidentata* Michx., and *P. tremuloides* Michx. (Salicaceae) (Abdullah & Qureshi, 1969; Brown, 1956, 1958, 1960, 1964; Downie & Arnett, 1996; LeSage, 1996c; Raizenne, 1975).

***Chrysomela lineatopunctata* Forster.** Hosts are Salicaceae, including *Populus balsamifera* L., *P. grandidentata* Michx., *P. tremuloides* Michx., *Salix amygdaloides* Anderss., and *S. humilis* Marsh. (Abdullah & Qureshi, 1969; Andrews, 1923; Beller & Hatch, 1932; Brown, 1956; Carr, 1988; Clark, 2000; Downie & Arnett, 1996; Furniss, 1972; Hatch, 1971; Lawson, 1976b, 1991; Raizenne, 1975; Riley & Enns, 1982; Schaeffer, 1928b). In previously unpublished field work, we have collected a series of *C. lineatopunctata* in Montana from *Populus angustifolia* James ex Long.

Bruner (1890) reported on a species that was shorter and plumper than *Chrysomela scripta* Fabricius and that was associated with *S. humilis*. The species was probably *C. lineatopunctata*. Lowe (1898a) reported on damage by "*Lina scripta*" to *Salix viminalis* L., but, as noted by Brown (1956), this was based on populations of *C. lineatopunctata*.

Beyond Salicaceae, *C. lineatopunctata* has been reported from *Alnus* (Betulaceae), sweet corn [*Zea mays* L.] (Poaceae), and *Purshia tridentata* (Pursh) DC. (Rosaceae) (Carr, 1988; Everly, 1938; Furniss, 1972). However, these associations were likely either incidental or based on misidentified beetles.

***Chrysomela mainensis* Bechyné.** Hosts of the subspecies *C. m. interna* Brown are *Alnus oregona* Nutt. [*A. rubra* Bong.] and *A. tenuifolia* Nutt. (Betulaceae) (Abdullah & Qureshi, 1969; Brown, 1956, 1958, 1964; Russell, 1968). Beetles have also been found on *Salix* (Salicaceae) (Abdullah & Qureshi, 1969; Brown, 1956; Hatch, 1971; Raizenne, 1975). In laboratory tests, larvae survived well on *Alnus rugosa* (Du Roi) Spreng. [*A. incana* ssp. *rugosa* (Du Roi) Clausen] (Betulaceae), as well as on *Populus balsamifera* L., *P. trichocarpa* J. Torr. & A. Gray ex Hook., and *Salix fragilis* L. (Salicaceae) (Brown, 1956, 1964).

The host of *C. m. littorea* Brown is reported to be *Alnus oregona* [*A. rubra*] (Betulaceae) (Abdullah & Qureshi, 1969; Brown, 1956, 1958; Hatch, 1971; Raizenne, 1975). Also, in laboratory tests, larvae developed well on *Alnus rugosa* [*A. incana* ssp. *rugosa*] (Betulaceae) and *Salix fragilis* (Salicaceae) (Abdullah & Qureshi, 1969; Brown, 1956). Beyond this, Abdullah & Qureshi (1969) indicated that *Alnus crispa* (Ait.) Pursh is a host, but Brown (1956) reported that larvae refused to feed on this plant in laboratory experiments.

Hosts of *C. m. mainensis* are *A. rugosa* [*A. incana* ssp. *rugosa*] and *A. tenuifolia* Nutt. (Betulaceae) (Abdullah & Qureshi, 1969; Brown, 1956, 1964; Clark, 2000; Dearborn & Donahue, 1993; Downie & Arnett, 1996; Raizenne, 1975). Beetles have also been found on *Salix* (Salicaceae), but this is not the preferred host (Abdullah & Qureshi, 1969; Brown, 1956; Dearborn & Donahue, 1993). In laboratory tests, larvae survived on *Salix fragilis*, but their development was slower than normal (Brown, 1956, 1964). Additionally, *C. m. mainensis* has been reported from fir [*Abies*] and spruce [*Picea*] (Pinaceae) (Dearborn & Donahue, 1993), but these occurrences were surely incidental.

Beyond the accounts mentioned above, *C. mainensis*, without clear indication of subspecies, has been recorded in association with *Alnus* (Carr, 1988; Furniss & Carolin, 1977; Ives & Wong, 1988; Johnson & Lyon, 1991; Wilcox, 1972). Beetles are also reported to occur, in early spring, on *Salix* (Carr, 1988; Wilcox, 1972).

The Old World species *Chrysomela lapponica* Linnaeus has been reported from western North America in association with alder [*Alnus*] (Doane *et al.*, 1936). This was surely based on populations of *C. mainensis* or a similar species.

***Chrysomela schaefferi* Brown.** Hosts are Salicaceae, including *Populus* and *Salix lasiolepis* Benth. (Abdullah & Qureshi, 1969; Brown, 1956; Carr, 1988; Hatch, 1971; Raizenne, 1975; Rank, 1991; Rank & Smiley, 1994; Rank *et al.*, 1996). Under experimental conditions, *C. schaefferi* has fed, at least sparingly, on *Populus trichocarpa* J. Torr. & A. Gray ex Hook., *Salix babylonica* L., *S. lucida* Muhl., *S. oresteria* Schneid., and *S. scouleriana* Barratt ex Hook. (Rank *et al.*, 1996).

Beyond Salicaceae, *C. schaefferi* has been reported from *Alnus* (Betulaceae) (Carr, 1988). However, this is probably not a normal host.

***Chrysomela scripta* Fabricius.** Host plants are Salicaceae, this species having been reported from *Populus alba* L., narrow leaved cottonwood [*P. angustifolia* James ex Long], *P. balsamifera* L., *P. x euramericana* (Dode) Guinier [*P. x canadensis* Moench], *P. deltoides* Marshall, *P. fremontii* S. Wats., *P. grandidentata* Michx., *P. x jackii* Sarg., *P. nigra* L., *P. tremuloides* Michx., *P. trichocarpa* J. Torr. & A. Gray ex

Hook., white willow [*Salix alba* L.], *Salix amygdaloides* Anderss., *S. babylonica* L., Kilmarnock willow [*S. caprea* L.], *S. caroliniana* Michx., *S. interior* Rowlee [*S. exigua* ssp. *interior* (Rowlee) Cronquist], *S. humilis* Marsh., *S. nigra* Marsh., laurel-leaved willow [*S. pentandra* L.], *S. viminalis* L., and New American willow [*Salix*] (Abrahamson *et al.*, 1977; Abdullah & Qureshi, 1969; Anaya-Rosales *et al.*, 1987; Andersen *et al.*, 1956; Andrews, 1923; Anonymous, 1985, 1989; Arnett, 1985; Arnett & Jacques, 1981; Augustin *et al.*, 1994, 1997; Baker, 1895; Baker, 1972; Balsbaugh & Hays, 1972; Beutenmüller, 1890a; Bingaman & Hart, 1992; Bland & Jaques, 1978; Blatchley, 1910, 1924a; Brimley, 1938; Britton & Zappe, 1927; Brown, 1956, 1958, 1960, 1964; Bruner, 1887, 1890; Burke *et al.*, 1974; Burkot & Benjamin, 1979; Caldbeck *et al.*, 1978; Carr, 1920; Cassidy, 1889; Chagnon, 1917, 1938; Chagnon & Robert, 1962; Chittenden, 1904a; Cibrián Tovar *et al.*, 1995; Clark, 2000; Coyle *et al.*, 2001; Cranshaw *et al.*, 2000; Dillon & Dillon, 1961; Doane *et al.*, 1936; Douglass, 1929; Downie & Arnett, 1996; Dozier, 1918; Edelson & Hyche, 1980; English, 1968; Essig, 1958; Felt, 1902b, 1905, 1930; Floate *et al.*, 1993; Forbes, 1905; Furniss & Carolin, 1977; Guthrie, 1931; Hale & Grant, 2003; Harrell *et al.*, 1981, 1982; Harrington, 1883; Hatch, 1971; Head *et al.*, 1977; Herrick, 1935; Hetrick, 1954; Houser, 1918; Howard, 1894; Ives & Wong, 1988; Jaques, 1951; Johnson, 1915; Johnson & Lyon, 1991; Keen, 1938, 1952; Kirk, 1970; Knowlton, 1939; Lawson, 1976b, 1991; Lin *et al.*, 1998a, 1998b; Löding, 1945; Lowe, 1898a; Lugger, 1889, 1899; MacAloney, 1950; MacAloney & Ewan, 1964; McDaniell, 1933; McDowell, 1955, 1960; Meehan, 1888; F. J. A. Morris, 1914a, 1914b; R. C. Morris, 1956, 1958; Murtfeldt, 1890; Oliveria & Cooper, 1977; Orcutt, 1889; Orcutt & Aldrich, 1891; Osburn, 1875; Packard, 1890; Page & Lyon, 1976; Papp, 1984; Peck & Thomas, 1998; Peterson, 1960; Popenoe, 1877; Powell, 1932; Raizenne, 1975; Riley, 1884; Riley & Enns, 1979; Riley & Fuller, 1880b; Rouse & Medvedev, 1972; Schwarz, 1878; H. C. Severin, 1922; Shenefelt & Benjamin, 1955; Smith, 1900, 1910a; Swan & Papp, 1972; Townsend, 1902; Ulke, 1903; Vestal, 1913; Wallace & Blum, 1969; Weiss, 1919b; Weiss & Patterson, 1912; Westcott, 1946; White, 1967; Wickham, 1896a, 1902; Wilcox, 1954, 1972, 1979; Williams, 1893; Wilson *et al.*, 1982; Woodruff, 1965b; Young, 1906).

Additionally, Webster (1881) included this beetle species in a list of chrysomelids observed on either *Salix discolor* Muhl. or *S. petiolaris* J. E. Sm. Beyond these plants, *C. scripta* feeds on various hybrid clones derived from *Populus angulata* Ait., *P. balsamifera*, *P. x berolinensis* Dipp., *P. betulifolia* Pursh, *P. x euramericana* [*P. x canadensis*], *P. candicans* Ait. [hybrid of *P. balsamifera* and *P. x jackii*], *P. caudina* Tenore, *P. charkowiensis* Schroed., *P. deltoides*, *P. laurifolia* Ledeb., *P. nigra*, *P. plantierensis* C. K. Schneid., *P. trichocarpa*, and *P. tristis* Fisch. (Bingaman & Hart, 1992; Caldbeck *et al.*, 1978; Coyle *et al.*, 2001; Fang & Hart, 2000; Harrell *et al.*, 1981; Lin *et al.*, 1998a, 1998b). In previously unpublished investigations, we have collected adults from *Salix eriocephala* Michx. in Missouri. Under experimental conditions, *C. scripta* has also fed on *Salix lasiolepis* Benth. (Page & Lyon, 1976).

Aldrich (1891) reported “The Cottonwood Leaf Beetle” from Russian poplar [*Populus balsamifera* or a similar species]. Although he did not give the beetle’s scientific name, his observation was surely based on *C. scripta* or a similar species.

Beyond Salicaceae, *C. scripta* has been recorded from boxelder [*Acer negundo* L.] (Aceraceae); *Baccharis halimifolia* L., *Carduus spinosissimus* Walt. [*Cirsium horridulum* Michx.] (Asteraceae); *Alnus* (Betulaceae); elder bush [*Sambucus*] (Caprifoliaceae); “frijol” [likely *Phaseolus vulgaris* L.] (Fabaceae); *Flacourtia indica* (Burm. f.) Merr. (Flacourtiaceae); fir [*Abies*], spruce [*Picea*] (Pinaceae); wheat [*Triticum*] (Poaceae); apple [*Malus sylvestris* P. Mill.] (Rosaceae); and elm [*Ulmus*] (Ulmaceae) (Anonymous, 1971f, 1985, 1989; Baker, 1972; Chittenden, 1904a; Dearborn & Donahue, 1993; Domínguez & Carrillo, 1976; Douglass, 1929; Hatch, 1924b; Leng, 1919; Lowe, 1898a; MacAloney, 1950; Packard, 1890; Page & Lyon, 1976; Palmer & Bennett, 1988; Riley, 1884; Rosewall, 1922; Shenefelt & Benjamin, 1955; Weiss & Patterson, 1912; Woodruff, 1965b). However, these are not the normal hosts. Morris (1914a, 1914b) reported this beetle species from grass [Poaceae], but he did not interpret this to be indicative of a food plant relationship. Additionally, Deitz *et al.* (1976) included “*Chrysomela* sp., prob. *scripta*” in a list of insects collected from soybean [*Glycine max* (L.) Merr.] (Fabaceae), but this occurrence was surely incidental.

Lowe (1898a) reported on damage by “*Lina scripta*” to *Salix viminalis*. However, as noted by Brown (1956), this was based on populations of *Chrysomela lineatopunctata* Forster.

***Chrysomela semota* Brown.** Hosts of this species are *Populus balsamifera* L., *P. trichocarpa* J. Torr. & A. Gray *ex* Hook., and *Salix* (Salicaceae) (Abdullah & Qureshi, 1969; Brown, 1956; Hatch, 1971; Ives & Wong, 1988; Raizenne, 1975).

***Chrysomela sonorae* Brown.** In Mexico, this species has been collected from *Salix* (Salicaceae) (Abdullah & Qureshi, 1969; Brown, 1966).

***Chrysomela texana* (Schaeffer).** This species has been associated with *Salix* (Salicaceae) (Abdullah & Qureshi, 1969; Brown, 1956). In previously unpublished investigations in southern Texas, we have collected larvae and adults from *S. exigua* Nutt. and *S. nigra* Marsh.

***Chrysomela walshi* Brown.** The normal host of this species is *Populus balsamifera* L. (Salicaceae) (Abdullah & Qureshi, 1969; Brown, 1956, 1958, 1964; Downie & Arnett, 1996; Raizenne, 1975; Wilcox, 1972). Abdullah & Qureshi (1969) indicated that *P. grandidentata* Michx. and *P. tremuloides* Michx. are also hosts. However, in an area heavily populated by this beetle species, Brown (1956) found only five larvae feeding on *P. tremuloides* Michx., and he found no chrysomelids on *P. grandidentata* Michx. Beyond published associations, we have seen specimens labeled from *P. tacamahacca* C. Mill.

In laboratory tests, larvae developed well on *Salix fragilis* L. (Salicaceae), and a percentage of them managed to survive on *Alnus rugosa* (Du Roi) Spreng. [*A. incana* ssp. *rugosa* (Du Roi) Clausen] (Betulaceae) (Brown, 1956, 1964). However, Brown (1964) stated that *C. walshi* cannot be maintained on alder [*Alnus*].

***Chrysophtharta m-fuscum* (Boheman).** This species, native to Australia, has recently been found in California in association with *Eucalyptus globulus* Labill. (Myrtaceae).

***Colaspidea pallipes* Fall.** This species has been collected from *Pinus monophylla* J. Torr. & Frem. (Pinaceae) (Carr, 1988; Fall, 1933; Schultz, 1970). Our previously unpublished field work in California confirms the association with this plant.

***Colaspidea smaragdula* (LeConte).** This species has been recorded from *Artemisia californica* Less. (Asteraceae); *Plagiobothrys nothofulvus* A. Gray (Boraginaceae); greasewood [*Sarcobatus vermiculatus* (Hook.) J. Torr.] (Chenopodiaceae); *Convolvulus* (Convolvulaceae); *Cupressus*, juniper [*Juniperus*] (Cupressaceae); *Quercus* (Fagaceae); *Eriodictyon* (Hydrophyllaceae); *Calochortus venustus* Dougl. ex Benth. (Liliaceae); *Pinus ponderosa* Dougl. ex Lawson & C. Lawson (Pinaceae); *Eriogonum* (Polygonaceae); “*Ceanothus mariposa*” (Rhamnaceae); *Adenostoma fasciculatum* Hook. & Arn., *Cercocarpus*, apple [*Malus sylvestris* P. Mill.], “*Durshia*” [likely *Purshia*], *Pyrus communis* L. (Rosaceae); and grape [*Vitis*] (Vitaceae) (Carr, 1988; Essig, 1915b, 1958; Fall, 1901, 1933; Moore, 1937; Schultz, 1970; Sweet, 1930).

Valenti *et al.* (1997) recorded “*Colaspidea* sp., prob. *grata* Fall” in association with *Arctostaphylos patula* E. L. Greene (Ericaceae). *Colaspidea grata* is now considered to be a synonym of *C. smaragdula*.

In previously unpublished investigations, we have seen material labeled from *Chrysothamnus* (Asteraceae), *Arctostaphylos* (Ericaceae), and *Purshia tridentata* (Pursh) DC. (Rosaceae).

***Colaspis brownsvillensis* Blake.** In previously unpublished investigations, we have collected this species from *Cynanchum* (Asclepiadaceae) in southern Texas. Additionally, we have identified adults that were collected by Thomas O. Robbins from *C. laeve* (Michx.) Pers. in northwest Texas. Similarly, we have identified a series collected by C. Riley Nelson from leaves of *C. unifarium* (Scheele) Woods. [*C. racemosum* var. *unifarium* (Scheele) E. Sundell] in central Texas.

***Colaspis brunnea* (Fabricius).** This species, sometimes cited as *C. flavida* (Say) although the true identity of Say’s species is uncertain, is frequently associated with Fabaceae, including *Arachis hypogaea* L., *Cercis canadensis* L., *Desmodium*, *Glycine max* (L.) Merr., *Kummerowia stipulacea* (Maxim.) Makino, *Lespedeza striata* (Thunb.) Hook. & Arnold, alfalfa [*Medicago sativa* L.], sweetclover [*Melilotus*], *Phaseolus limensis* Macf. [*P. lunatus* L.], *P. vulgaris* L., yellow locust [*Robinia pseudoacacia* L.], alsike clover [*Trifolium hybridum* L.], *Trifolium pratense* L., white clover [*T. repens* L.], and cowpea [*Vigna unguiculata* Clav.] (Balduf, 1923; Baur *et al.*, 2000; Bickenstaff & Huggans, 1962; Bigger, 1931; Blake, 1974; Blatchley, 1910, 1924a; Bruner, 1895; Chapin, 1979; Chittenden, 1897b, 1897c, 1903b, 1903c; Crosby & Leonard, 1918; Davidson & Lyon, 1987; Deitz *et al.*, 1976; Douglass, 1929; Drees & Rice, 1990; Eaton *et al.*, 1980; Felt, 1902a, 1907; Forbes, 1883b; Forbes & Hart, 1900; Hopkins, 1893; Hunt & Baker, 1982; Jaques, 1951; Kerr & Stuckey, 1956; Kirk, 1969; Lee, 1949; Lugger, 1899; McGiffin & Neunzig, 1985; Metcalf & Metcalf, 1993; Milliron, 1958; Mullett, 1952; Neiswander, 1944; Niemczyk & Guyer, 1963; Oliver, 1955d; Papp, 1984; Peterson, 1960; Riley & Enns, 1979; Rolston & Rouse, 1965; Rouse & Medvedev, 1972; Smith, 1900, 1910a, 1943; Swan & Papp, 1972; Tugwell *et al.*, 1973; Turnipseed & Kogan, 1976; Webster, 1882, 1900; Westcott, 1946).

In previously unpublished field work conducted in northwestern Missouri, we have found *C. brunnea* feeding on *Desmodium illinoense* A. Gray. Also in Missouri, we have found adults (probably *C. brunnea*) on *D. glabellum* (Michx.) DC. and on a plant that was tentatively identified as *D. canescens* (L.) DC. Andrew H. Williams (pers. comm.) has found adults feeding on *Lespedeza capitata* Michx. in Wisconsin.

Beyond Fabaceae, *C. brunnea* has been reported from *Daucus carota* L. (Apiaceae); dahlia [*Dahlia*], *Helianthus grosseserratus* Martens, *Iva ciliata* Willd., *Solidago*, *Aster multiflorus* Ait. [*Symphotrichum ericoides* var. *ericoides* (L.) Nesom] (Asteraceae); cabbage [*Brassica oleracea* L.] (Brassicaceae); wild hop [*Humulus*] (Cannabaceae); garden beet [*Beta vulgaris* L.], sugar beet [*Beta vulgaris*], *Chenopodium album* L. (Chenopodiaceae); sweet potato [*Ipomoea batatas* (L.) Lam.] (Convolvulaceae); watermelon [*Citrullus lanatus* (Thunb.) Matsum. & Nakai], cantaloupe [*Cucumis melo* L.], muskmelon [*Cucumis melo*] (Cucurbitaceae); *Quercus palustris* Muenchh., *Q. rubra* L. (Fagaceae); pecan [*Carya illinoensis* (Wang.) K. Koch] (Juglandaceae); okra [*Abelmoschus esculentus* (L.) Moench], *Gossypium arboreum* L., *G. barbadense* L.,

Leaf Beetles and Associated Plants

G. hirsutum L., *G. thurberi* Todaro (Malvaceae); wax myrtle [*Myrica*] (Myricaceae); four o'clock [*Mirabilis*] (Nyctaginaceae); *Oenothera* (Onagraceae); *Pinus rigida* P. Mill., white pine [*P. strobus* L.] (Pinaceae); crabgrass [*Digitaria*], *Muhlenbergia mexicana* (L.) Trin., rice [*Oryza sativa* L.], *Panicum dichotomiflorum* Michx., *Paspalum laeve* Michx., timothy [*Phleum*], *Poa compressa* L., June grass [*P. pratensis* L.], *Sorghum halepense* (L.) Pers., sorghum [*Sorghum*], *Zea mays* L. (Poaceae); swamp smartweed [*Polygonum amphibium* L.], *Polygonum lapathifolium* L., *P. perfoliatum* L., *Rumex crispus* L. (Polygonaceae); *Ceanothus americanus* L. (Rhamnaceae); *Fragaria vesca* L., apple [*Malus sylvestris* P. Mill.], *Potentilla*, *Prunus angustifolia* Marsh., *P. persica* (L.) Batsch, *Pyracantha coccinea* M. J. Roem., pear [*Pyrus*], rose [*Rosa*] (Rosaceae); willow [*Salix*] (Salicaceae); *Solanum carolinense* L., Irish potato [*S. tuberosum* L.] (Solanaceae); Virginia creeper [*Parthenocissus*] and Delaware grape [*Vitis labrusca* L. or *V. riparia* Michx.] (Vitaceae) (Andrews, 1923; Ashmead, 1894; Balduf, 1923; Beisler *et al.*, 1977; Beutenmüller, 1890a; Bigger, 1931; Blake, 1974; Bland & Jaques, 1978; Blatchley, 1910, 1924a; Bray & Triplehorn, 1953; Bruner, 1891b, 1895; Chapin, 1979; Chittenden, 1897b, 1903b, 1903c; Crosby & Leonard, 1918; Davidson & Lyon, 1987; Dearborn & Donahue, 1993; Dickerson & Weiss, 1920; Douglass, 1929; Felt, 1902a; Folsom, 1936a, 1936b; Forbes, 1884a, 1905, 1909; Forbes & Hart, 1900; Gossard, 1911; Harned, 1953; Harrington, 1883; Hendrickson, 1930b; Hopkins, 1893; Hunt & Baker, 1982; Jackman, 1979i; Jaques, 1951; Jenkins *et al.*, 1966; Johnson & Hammar, 1910; Kirk, 1969, 1970; Lago & Mann, 1987; Lugger, 1899; McGiffin & Neunzig, 1985; Metcalf & Metcalf, 1993; Neiswander, 1931, 1944; Oliver, 1956c; Packard, 1877; Papp, 1984; Patch, 1913; Peterson, 1960; Riley, 1871b; Rolston & Rouse, 1960, 1965; Rouse & Medvedev, 1972; Rouse & Whitcomb, 1957; Sanderson & Pears, 1931; Schultz, 1970; Slingerland & Crosby, 1915; Smith, 1900, 1910a, 1943; Still & Rings, 1973; Swan & Papp, 1972; Turnipseed & Kogan, 1976; Walsh, 1867a, 1867b; Webster, 1900; Wheeler & Mengel, 1984; Westcott, 1946; Williams & Rings, 1980).

Also, Webster's (1881) report of *Colaspis strigosa* Dejean from *Salix discolor* Muhl. and *S. petiolaris* J. E. Sm. (Salicaceae) may have been based on *C. brunnea*. Unfortunately, this report, as well as many of the other recorded associations, predate modern taxonomic revision, and the true identity of the beetles is therefore somewhat questionable. While surveying for insects associated with *Heterotheca subaxillaris* (Lamb.) N. L. Britt. & Rusby (Asteraceae), Altieri & Whitcomb (1980) found insects in the "*Maecolaspis brunnea* complex" to be present, although rare.

In previously unpublished investigations in Missouri, we have found adults (probably *C. brunnea*) on *Gaura biennis* L. and *Oenothera biennis* L. (Onagraceae). Captive beetles fed on both of these plants. Additionally, we have identified an adult specimen of *C. brunnea* labeled from North Carolina in association with *Pinus palustris* Mill. (Pinaceae).

Beyond the natural associations reported above, *C. brunnea* has fed, at least sparingly, on other plants under experimental conditions: *Mirabilis jalapa* L. (Nyctaginaceae); *Digitaria sanguinalis* (L.) Scop., *Echinochloa crus-galli* (L.) Beauv. (Poaceae); and *Parthenocissus quinquefolia* (L.) Planch. (Vitaceae) (Rolston & Rouse, 1965).

Arizona and New Mexico beetles have been associated with *Humulus lupulus* L. (Cannabaceae); watermelon [*Citrullus lanatus*] (Cucurbitaceae); bean [likely *Phaseolus vulgaris*] (Fabaceae); okra [*Abelmoschus esculentus*], cotton [*Gossypium*] (Malvaceae); *Oenothera hookeri* Torr. & Gray (Onagraceae); strawberry [*Fragaria*], apple [*Malus sylvestris*], plum [*Prunus*], pear [*Pyrus*], rose [*Rosa*] (Rosaceae); *Salix* (Salicaceae); potato [*Solanum tuberosum*] (Solanaceae); *Parthenocissus vitacea* (Kner.) A. Hitchc. and mission grape vine [*Vitis vinifera* L.] (Vitaceae) (Brisley, 1925; Cockerell, 1897; Essig, 1958; Fall & Cockerell, 1907; Morrill, 1917; Telford, 1957; Wene *et al.*, 1965). However, *C. brunnea* does not occur in these states, and all of these associations were certainly based on other species, likely on *C. hesperia* Blake.

Similarly, Dozier (1918) associated Florida specimens of "*C. brunnea*" with sweet potato [*Ipomoea batatas*] (Convolvulaceae) and cowpea [*Vigna unguiculata*] (Fabaceae). Florida is beyond the generally recognized range of this beetle species, and these associations were likely also based on misidentification.

Craighead & Middleton (1930) reported "*Colaspis brunnea*" defoliating pine [*Pinus*] (Pinaceae). This also was probably based on a species other than true *C. brunnea*.

Grillo Ravelo (1979) recorded *C. brunnea* from Cuba in association with *Annona reticulata* L. (Annonaceae); *Lagascea mollis* Cav. (Asteraceae); *Impatiens balsamina* L. (Balsaminaceae); *Luffa cylindrica* (L.) Roemer [*L. aegyptiaca* Mill.] (Cucurbitaceae); *Acalypha alopecuroides* Jacq. (Euphorbiaceae); *Crotalaria incana* L., *Glycine max*, *Phaseolus vulgaris* (Fabaceae); *Quercus virginiana* P. Mill. (Fagaceae); *Abelmoschus esculentus*, *Alcea rosea* L., *Hibiscus elatus* Sw., *H. rosa-sinensis* L., *Malvastrum coromandelianum* (L.) Garcke (Malvaceae); *Cedrela mexicana* M. J. Roem. (Meliaceae); *Psidium guajava* L. (Myrtaceae); *Boerhaavia erecta* L., *Mirabilis jalapa* (Nyctaginaceae); *Rosa* (Rosaceae); and *Capsicum frutescens* L. [*C. annuum* L.] (Solanaceae). However, the true identity of the beetles in his report is also somewhat questionable.

Beyond plant associations mentioned above, Riley (1871b) conjectured that "*Colaspis flavida*" preyed

upon caterpillars. Surely, his speculation was in error. Wray & Brimley (1943) reported a specimen of *C. brunnea* from *Sarracenia flava* L. (Sarraceniaceae). However, this was probably an instance in which the insect was prey rather than an herbivore.

***Colaspis carolinensis* Blake.** This species has been reported in association with *Vitis rotundifolia* Michx. (Vitaceae) (McGiffin & Neunzig, 1985).

***Colaspis championi* Jacoby.** This species has been reported from “arroz” [*Oryza sativa* L.] and corn silk [*Zea mays* L.] (Poaceae) (Blake, 1974, 1976; Domínguez & Carrillo, 1976).

***Colaspis costipennis* Crotch.** This species has been reported in association with *Aster* (Asteraceae); *Clethra alnifolia* L. (Clethraceae); *Rhododendron*, *Vaccinium macrocarpon* Ait., blueberry [*Vaccinium*] (Ericaceae); velvetbean [*Mucuna*], *Tephrosia* (Fabaceae); *Carya illinoensis* (Wang.) K. Koch (Juglandaceae); sweet fern [*Comptonia peregrina* (L.) Coult.] (Myricaceae); and *Vitis* (Vitaceae) (Blake, 1974; Blatchley, 1924a; Chapin, 1979; Clark, 2000; Franklin, 1950; Smith, 1900, 1910a; Wilcox, 1979). Beyond this, Kirk (1970) recorded “*Colaspis brunnea* prob. *costipennis*” from wild plum [*Prunus*] (Rosaceae).

***Colaspis crinicornis* Schaeffer.** In Mexico, the subspecies *C. c. crinicornis* has been collected from leaves of mesquite [*Prosopis*] (Fabaceae) (Blake, 1974). In Louisiana, *C. c. chittendeni* Blake has been reported from soybean [*Glycine max* (L.) Merr.], red clover [*Trifolium pratense* L.] (Fabaceae); sugarcane [*Saccharum officinarum* L.] and corn [*Zea mays* L.] (Poaceae) (Blake, 1974; Chapin, 1979).

***Colaspis cruriflava* Blake.** In previously unpublished investigations, we have seen *C. cruriflava* labeled from Arizona in association with *Mimosa* (Fabaceae).

***Colaspis favosa* Say.** This species has been recorded from alder [*Alnus*] (Betulaceae); *Rhododendron* (Ericaceae); *Quercus virginiana* P. Mill. (Fagaceae); *Juglans nigra* L. (Juglandaceae); cuphea [*Cuphea*], crape myrtle [*Lagerstroemia indica* L.] (Lythraceae); *Myrica* (Myricaceae); punk-tree [*Melaleuca quinquenervia* (Cav.) S. T. Blake] (Myrtaceae); *Pinus* (Pinaceae); peach [*Prunus persica* (L.) Batsch], *Rubus* (Rosaceae); and ixora [*Ixora*] (Rubiaceae) (Anonymous, 1960u; Balsbaugh & Hays, 1972; Blake, 1977; Chapin, 1979; English & Turnipseed, 1940; Kirk, 1960, 1970; Löding, 1945; Newell & Smith, 1905; Wilcox, 1979; Williams, 1989b). Additionally, Webster (1881) included *C. favosa* in a list of chrysomelids collected from either *Salix discolor* Muhl. or *S. petiolaris* J. E. Sm. (Salicaceae). Chapin (1979) and Williams (1989b) regarded collections from *Pinus* as adventitious.

In previously unpublished investigations, we have found *C. favosa* feeding heavily on *Diospyros virginiana* L. (Ebenaceae) in native prairie habitats in Arkansas. The beetles were especially abundant at night. They were found on other plants also, but were not observed to be feeding on them.

Beyond these reports, *C. favosa* has been recorded from *Psoralea argophylla* Pursh (Fabaceae); *Lagerstroemia* (Lythraceae); *Myrica carolinensis* Mill. [*M. cerifera* L.] (Myricaceae); *Eucalyptus*, *Melaleuca leucadendra* (L.) L., cattilya guava [*Psidium cattleianum* Sabine] (Myrtaceae); *Polygonum amphibium* L. (Polygonaceae); apple [*Malus sylvestris* P. Mill.] (Rosaceae); *Ixora coccinea* L. (Rubiaceae); and grape [*Vitis*] (Vitaceae) (Anonymous, 1962k; Blatchley, 1924a; Dozier, 1918; Douglass, 1929; Hendrickson, 1930b; McAlay, 1965; McFarlin & Bickner, 1967; Popenoe, 1877; Schaeffer, 1928a; Williams, 1989b). However, the true identity of the beetles involved in these associations was probably not *C. favosa*, the reports predating significant taxonomic treatment and originating from states (Florida, Iowa, Kansas, and New York) beyond the generally recognized range for the species. Moldenke’s (1971) report of *C. favosa* in Mexico from *Kallstroemia hirsutissima* Vail (Zygophyllaceae) was probably also based on misidentified beetles.

***Colaspis flavocostata* Schaeffer.** This species has been reported from *Vaccinium* (Ericaceae), oak [*Quercus*] (Fagaceae), and pitch pine [*Pinus rigida* P. Mill.] (Pinaceae) (Blake, 1974; Chapin, 1979; Clark, 2000; Kirk, 1969; Schaeffer, 1934). It has also been taken while collecting from plants that included wax myrtle [*Myrica*] (Myricaceae) (Chapin, 1979).

***Colaspis floridana* Schaeffer.** This species has been reported from *Dahlia rosea* Cav. [*D. pinnata* Cav.] (Asteraceae); *Brassica oleracea* L. (Brassicaceae); *Citrullus vulgaris* Schrad. ex Eckl. & Zeyh. [*C. lanatus* (Thunb.) Matsum. & Nakai] (Cucurbitaceae); *Arachis hypogaea* L., “*Clathidium versicarium*” [possibly *Glottidium vesicarium* (Jacq.) Harper], *Glycine max* (L.) Merr., *Phaseolus*, pea [likely *Pisum sativum* L.] (Fabaceae); *Geranium* (Geraniaceae); *Persea americana* Mill. (Lauraceae); *Abelmoschus esculentus* (L.) Moench, *Gossypium hirsutum* L., *Hibiscus* (Malvaceae); *Mirabilis jalapa* L. (Nyctaginaceae); *Rosa* (Rosaceae); *Lycopersicon esculentum* Mill. (Solanaceae); and *Vitis rotundifolia* Michx. (Vitaceae) (Blake, 1974; Kirk, 1970; McGiffin & Neunzig, 1985).

***Colaspis hesperia* Blake.** This species has been collected from alfalfa [*Medicago sativa* L.], lima bean [*Phaseolus lunatus* L.] (Fabaceae); cotton [*Gossypium*] (Malvaceae); and grape [*Vitis*] (Vitaceae) (Blake, 1974).

Arizona and New Mexico populations of “*Colaspis brunnea* Fabricius” or of its questionable synonym “*C. flavida* (Say)” have been associated with *Humulus lupulus* L. (Cannabaceae); watermelon [*Citrullus lanatus* (Thunb.) Matsum. & Nakai] (Cucurbitaceae); bean [likely *Phaseolus vulgaris* L.] (Fabaceae); okra

[*Abelmoschus esculentus* (L.) Moench], cotton [*Gossypium*] (Malvaceae); *Oenothera hookeri* Torr. & Gray (Onagraceae); strawberry [*Fragaria*], apple [*Malus sylvestris* P. Mill.], plum [*Prunus*], pear [*Pyrus*], rose [*Rosa*] (Rosaceae); *Salix* (Salicaceae); potato [*Solanum tuberosum* L.] (Solanaceae); *Parthenocissus vitacea* (Kner.) A. Hitchc. and mission grape vine [*Vitis vinifera* L.] (Vitaceae) (Brisley, 1925; Cockerell, 1897; Essig, 1958; Fall & Cockerell, 1907; Telford, 1957; Wene *et al.*, 1965). However, *C. brunnea* does not occur in western areas and all of these associations were certainly based on another species, likely on *C. hesperia*.

***Colaspis lata* Schaeffer.** This species has been reported from soybean [*Glycine max* (L.) Merr.] (Fabaceae) (Newsom, 1963c; Newsom & Cancienne, 1961c).

***Colaspis* ? *lebasii* Lefèvre.** Peck & Thomas (1998) stated that the South American species “*C. sp. prob. lebasii*” is apparently established in Florida. They reported a specimen collected from *Hibiscus* (Malvaceae).

***Colaspis louisianae* Blake.** This species has been reported in association with turnip [*Brassica rapa* L.] (Brassicaceae); *Desmanthus illinoensis* (Michx.) MacMill. ex Robinson & Fern., *Desmodium*, *Glycine max* (L.) Merr., alfalfa [*Medicago sativa* L.], string bean [*Phaseolus vulgaris* L.], red clover [*Trifolium pratense* L.] (Fabaceae); cotton [*Gossypium*] (Malvaceae); “fuschia” [likely *Fuchsia*] (Onagraceae); rice [*Oryza sativa* L.], corn [*Zea mays* L.] (Poaceae); dock [*Rumex*] (Polygonaceae); and rose [*Rosa*] (Rosaceae) (Baur *et al.*, 2000; Blake, 1974; Chapin, 1979; Flynn & Reagan, 1984; Troxclair & Boethel, 1984).

***Colaspis melaina* Blake.** This species has been collected from *Ambrosia aptera* DC. (Asteraceae) and *Datura* (Solanaceae) (Blake, 1974).

***Colaspis pini* Barber.** Larvae feed on the roots of grasses [Poaceae] and herbaceous vegetation, while adults prefer foliage of *Pinus elliottii* Engelm. but have also been recorded in association with *Cedrus deodara* (Roxb. ex D. Don) G. Don f., *Picea*, *Pinus australis* Michx. [*Pinus palustris* Mill.], pitch pine [*P. rigida* P. Mill.], *P. taeda* L., and *P. virginiana* P. Mill. (all Pinaceae) and with *Taxodium distichum* (L.) L. C. Rich. (Taxodiaceae) (Anderson, 1960; Anonymous, 1960u, 1961t, 1985, 1989; Baker, 1972; Balsbaugh & Hays, 1972; Barber, 1937; Bennett & Ostmark, 1972; Blake, 1974; Chapin, 1979; Clark, 2000; G. T. Davis, 1954; Downie & Arnett, 1996; Furniss & Carolin, 1977; Jolivet, 1987b; Jolivet & Hawkeswood, 1995; MacAloney, 1950; Riley *et al.*, 2002; Rouse & Medvedev, 1972; Spink, 1959d, 1959e, 1960b, 1960d; Westcott, 1946; Wilcox, 1979).

***Colaspis planicostata* Blake.** This species has been collected from palm [Arecaceae]; *Baccharis halimifolia* L. (Asteraceae); alfalfa [*Medicago sativa* L.], green bean [*Phaseolus vulgaris* L.] (Fabaceae); okra [*Abelmoschus esculentus* (L.) Moench] (Malvaceae); bell-pepper [*Capsicum annuum* L.] (Solanaceae); and grape [*Vitis*] (Vitaceae) (Blake, 1974; Palmer, 1987). In Mexico, it is reported to be a pest of “maíz” [*Zea mays* L.] (Poaceae) (Ríos-Rosillo & Romero-Parra, 1982).

***Colaspis pseudofavosa* Riley.** This species, sometimes cited as the synonym *C. floridana* Blake, has been recorded from pecan [*Carya illinoensis* (Wang.) K. Koch] (Juglandaceae), okra [*Abelmoschus esculentus* (L.) Moench] (Malvaceae), *Myrica cerifera* L. (Myricaceae), and gaura [*Gaura*] (Onagraceae) (Blake, 1977; Flowers *et al.*, 1994; Peck & Thomas, 1998).

Beyond this, “*Colaspis favosa* Say” has been recorded in Florida from eucalyptus [*Eucalyptus*] (Myrtaceae) and grape [*Vitis*] (Vitaceae) (Blatchley, 1924a; Dozier, 1918). However, Florida is beyond the normally recognized range of *C. favosa*, and these associations were likely based on *C. pseudofavosa*.

***Colaspis recurva* Blake.** This species has been recorded from *Baccharis halimifolia* L. (Asteraceae); *Rhododendron* (Ericaceae); *Prunus mexicana* S. Wats., *Rosa* (Rosaceae); *Camellia* (Theaceae); and *Vitis rotundifolia* Michx. (Vitaceae) (Blake, 1974; McGiffin & Neunzig, 1985; Palmer & Bennett, 1988). Additionally, Chapin (1979) reported a single specimen collected while beating plants that included wax myrtle [*Myrica*] (Myricaceae).

Chapin (1979) reported finding material believed to be *C. recurva* while sampling from pine [*Pinus*] (Pinaceae). However, she regarded this as an adventitious occurrence.

***Colaspis suggona* Blake.** In previously unpublished field work conducted in a tallgrass prairie in southwestern Missouri, we have found this species feeding on *Ludwigia alternifolia* L. (Onagraceae). Also, we have collected a green species of *Colaspis*, either *C. suggona* or a species near this species, from *Glycyrrhiza lepidota* Nutt. ex Pursh (Fabaceae) in Oklahoma where numerous adults were consuming the foliage.

***Colaspis suilla* Fabricius.** This species has been collected by sweeping vegetation that included a legume [Fabaceae] (Riley & Enns, 1979).

***Colaspis viridiceps* Schaeffer.** This species has been collected from *Verbesina encelioides* (Cav.) Benth. & Hook. f. ex A. Gray, *Ximenesia exauriculata* (B. L. Rob. & Greenm.) Rydb. (Asteraceae); alfalfa [*Medicago sativa* L.] (Fabaceae); and cotton [*Gossypium*] (Malvaceae) (Blake, 1974).

***Colaspis viriditincta* Schaeffer.** Brisley (1925) reported “*Colaspis brunnea* var. *viriditincta*” feeding on nasturtium [likely *Nasturtium* or *Rorippa* (Brassicaceae), or *Tropaeolum* (Tropaeolaceae)].

***Coleorozena alicula* (Fall).** This species has been associated with *Acacia* (Fabaceae) and *Eriogonum*

(Polygonaceae) (Moldenke, 1970). In previously unpublished investigations, we have seen *C. alicula* labeled from Baja California in association with *Larrea* (Zygophyllaceae).

***Coleorozena fulvilabris* (Jacoby).** The adult host is reported to be *Quercus* (Fagaceae) (Hespenheide, 1996; Moldenke, 1970).

***Coleorozena lecontii* (Crotch).** This species has most often been recorded in association with Fabaceae, including *Olneya tesota* A. Gray and *Prosopis glandulosa* J. Torr. (Bibby, 1961; Moldenke, 1970; Ward *et al.*, 1977).

Beyond Fabaceae, Richerson & Boldt (1995) indicated that *C. lecontii* occurs, although rarely, on *Flourensia cernua* DC. (Asteraceae), and Carr (1988) recorded an association with *Bloomeria* (Liliaceae). Additionally, Wickham (1902) recorded material from oak [*Quercus*] (Fagaceae), but his observation was from Colorado, slightly beyond the generally recognized range of *C. lecontii*, and the identification is therefore questionable.

***Coleorozena longicollis* (Jacoby).** Adult hosts are reported to be *Acacia*, *Mimosa*, and *Prosopis* (Fabaceae) (Hespenheide, 1996; Jolivet, 1978; Moldenke, 1970).

***Coleorozena pilatei* (Lacordaire).** This species has been recorded from *Acacia*, *Prosopis* (Fabaceae); and *Eriogonum* (Polygonaceae) (Carr, 1988; Hespenheide, 1996; Jolivet, 1978; Moldenke, 1970; Moore, 1937; Ward *et al.*, 1977). Additionally, it has been reported from *Artemisia californica* Less., *Gutierrezia microcephala* (DC.) A. Gray (Asteraceae); and *Adenostoma fasciculatum* Hook. & Arn. (Rosaceae) (Carr, 1988; Foster *et al.*, 1981; Sweet, 1930). However, these may not be normal hosts. Woods (1992) listed "*Eurysepta* sp. near *pilatei* Lacordaire" from *Parkinsonia aculeata* L. (Fabaceae). In previously unpublished investigations, we have seen *C. pilatei* labeled from Arizona in association with *Parkinsonia florida* (Benth. ex A. Gray) S. Watson (Fabaceae).

***Coleorozena subnigra* (Schaeffer).** Moldenke (1970) stated that this species is associated with Mimosaceae (Fabaceae). In previously unpublished investigations, we have associated *C. subnigra* in Baja California with *Prosopis glandulosa* J. Torr. (Fabaceae).

***Coleorozena vittata* (LeConte).** This species has been recorded from *Acacia*, *Cercidium*, *Prosopis* (Fabaceae); *Bouteloua eriopoda* (J. Torr.) J. Torr. (Poaceae); and *Eriogonum* (Polygonaceae) (Hespenheide, 1996; Moldenke, 1970; Thomas & Werner, 1981; Ward *et al.*, 1977; Watts, 1963).

In previously unpublished investigations, we have associated *C. vittata* in Baja California with *Eriogonum inflatum* J. Torr. & Frem. (Polygonaceae). Records maintained by the USDA-ARS Grassland, Soil and Water Research Laboratory state that adults in Maverick County, Texas have been found feeding on *Larrea tridentata* (Sesse & Moçino ex DC.) Coville (Zygophyllaceae) (Thomas O. Robbins, pers. comm.).

***Coleothorpa aenesceus* (Crotch).** This species has been collected from oak leaves [*Quercus*] (Fagaceae) (Kirk, 1969). Additionally, Ward *et al.* (1977) listed this beetle species "or near" from mesquite [*Prosopis*] (Fabaceae).

***Coleothorpa axillaris* (LeConte).** This species has been reported from *Rhus glabra* L. (Anacardiaceae); daisy [*Chrysanthemum* or a similar genus] (Asteraceae); cactus [Cactaceae]; *Acacia*, *Amorpha*, *Cassia* (Fabaceae); *Desmanthus*, *Olneya tesota* A. Gray, *Prosopis glandulosa* J. Torr. (Fabaceae); *Ribes* (Grossulariaceae); *Malva* (Malvaceae); *Eriogonum effusum* Nutt. (Polygonaceae); *Clematis ligusticifolia* Nutt. (Ranunculaceae); *Adenostoma fasciculatum* Hook. & Arn., *Fallugia* (Rosaceae); and horse thistle [presumably horse-nettle, *Solanum carolinense* L.] (Solanaceae) (Bibby, 1961; Carr, 1988; Cockerell, 1902; Douglass, 1929; Fall & Cockerell, 1907; Hatch & Ortenburger, 1930; Hespenheide, 1996; Jolivet, 1978; Kumar *et al.*, 1976; Lavigne, 1976; Moldenke, 1970; Riley & Enns, 1979; Slosser, 2003; Ward *et al.*, 1977).

In previously unpublished investigations in Arizona, California, and Baja California, we have associated *C. axillaris* with *Acacia constricta* Benth. ex A. Gray, *Prosopis glandulosa* (Fabaceae); *Idria columnaris* Kellogg (Fouquieriaceae); and *Eriogonum inflatum* J. Torr. & Frem. (Polygonaceae). Records maintained by the USDA-ARS Grassland, Soil and Water Research Laboratory state that adults of "*Coleothorpa* prob. *axillaris*" in Pima County, Arizona have been swept from foliage of *Larrea tridentata* (Sesse & Moçino ex DC.) Coville (Zygophyllaceae) (Thomas O. Robbins, pers. comm.).

***Coleothorpa dominicana* (Fabricius).** This species, the larvae of which have sometimes been found in association with ants, has been reported from *Rhus copallina* L., *R. glabra* L., *Toxicodendron radicans* (L.) Kuntze (Anacardiaceae); *Opuntia engelmannii* Salm-Dyck (Cactaceae); *Amorpha*, *Gleditsia triacanthos* L., *Lupinus*, *Psoralea* (Fabaceae); *Quercus marilandica* Muenchh., scrub oak [*Quercus*] (Fagaceae); *Carya cordiformis* (Wang.) K. Koch, *Juglans nigra* L. (Juglandaceae); sassafras [*Sassafras albidum* (Nutt.) Nees] (Lauraceae); *Nyssa sylvatica* Marsh. (Nyssaceae); *Rumex* (Polygonaceae); *Ceanothus americanus* L. (Rhamnaceae); *Crataegus*, apple [*Malus sylvestris* P. Mill.], plum [*Prunus*], rose [*Rosa*] (Rosaceae); and wild grape [*Vitis*] (Vitaceae) (Balsbaugh & Hays, 1972; Beutenmüller, 1890a; Blatchley, 1910, 1924a; Downie & Arnett, 1996; Dozier, 1918, 1920; Felt, 1907; Furth, 1985; Harris, 1841, 1863; Hespenheide, 1996; Jolivet,

1978; Kirk, 1969; Kirk & Balsbaugh, 1975; Löding, 1945; Lugger, 1899; MacAloney, 1950; Moldenke, 1970; Packard, 1890; Popenoe, 1877; Riley, 1874c; Riley & Enns, 1979; Slosser, 2003; Smith, 1900, 1910a; Wickham, 1902; Wilcox, 1954, 1979). Under experimental conditions, larvae have also fed on mold and ground-up pieces of ants, *Formica neoclara* Emery.

In previously unpublished investigations, we have found an adult of this beetle species on *Rhus aromatica* Ait. (Anacardiaceae) in Missouri. Additionally, we have seen *C. dominicana* labeled from Massachusetts in association with red oak [*Quercus rubra* L.] (Fagaceae) and from New York in association with white pine [*Pinus strobus* L.] (Pinaceae). We have also seen a single specimen of the subspecies *C. d. dominicana* labeled from Utah in association with *Purshia stansburiana* (Torr.) Henrickson (Rosaceae). In Wisconsin, Andrew H. Williams (pers. comm.) has found *C. d. dominicana* feeding on *Quercus macrocarpa* Michx. (Fagaceae).

This beetle species is apparently not very selective in its choice of food, at least not under confinement. Barnard (1880) reported that newly emerged adults ate the margins of a label that had been placed in a bottle with them and that they devoured a small black caterpillar, probably *Hypoprepia minuta* (Kirby) (Arctiidae).

***Coleothorpa mucorea* (LeConte).** Adult hosts are reported to be Fabaceae, including *Acacia* (Carr, 1988; Hespenheide, 1996; Moldenke, 1970). Hespenheide (1996) also indicated that *Chrysothamnus* (Asteraceae) is a host. Beyond this, *C. mucorea* has been reported from *Artemisia californica* Less., *Gutierrezia sarothrae* (Pursh) N. L. Britt. & Rusby (Asteraceae); crocus [*Crocus*] (Iridaceae); and *Purshia mexicana* (D. Don) Henrickson (Rosaceae) (Carr, 1988; Foster *et al.*, 1981; Sweet, 1930).

In previously unpublished investigations, we have seen *C. mucorea* labeled from Arizona in association with *Parkinsonia florida* (Benth. ex A. Gray) S. Watson, *Prosopis juliflora* (Sw.) DC. [*P. glandulosa* J. Torr.] (Fabaceae); *Amelanchier* (Rosaceae); and *Celtis* (Ulmaceae). We have seen material labeled from California in association with *Larrea divaricata* Cav. (Zygophyllaceae). We have seen specimens from Baja California labeled in association with *Rhus integrifolia* (Nutt. ex Torr. & A. Gray) Benth. & Hook. f. ex Rothr. (Anacardiaceae); *Viguiera deltoidea* A. Gray (Asteraceae); *Bursera microphylla* A. Gray (Burseraceae); *Cercidium*, *Prosopis chilensis* (Molina) Stuntz [*P. glandulosa*] (Fabaceae); *Idria columnaris* Kellogg (Fouquieriaceae); and *Eriogonum* (Polygonaceae).

***Coleothorpa panochensis* (Gilbert).** Adults of this species are associated with *Ephedra californica* Wats. (Ephedraceae) (Carr, 1988; Gilbert, 1981).

***Coleothorpa seminuda* (Horn).** In previously unpublished investigations, we have collected adults in Utah by beating *Quercus gambelii* Nutt. (Fagaceae). We have also identified two specimens labeled from Utah, one in association with *Rhus trilobata* Nutt. ex Torr. & A. Gray (Anacardiaceae) and the other in association with *Purshia stansburiana* (Torr.) Henrickson (Rosaceae).

***Coleothorpa vittigera* (LeConte).** This species has been reported in association with *Oxytropis lambertii* Pursh (Fabaceae) and *Potentilla* (Rosaceae) (Jolivet, 1978; Wickham, 1902). In previously unpublished field work in western Texas, we have collected adults of the subspecies *C. v. arizonensis* (Horn) from *Quercus mohriana* Buckl. ex Rydb. (Fagaceae).

***Coptocyclus texana* (Schaeffer).** This species feeds on foliage of *Ehretia anacua* (Terán & Berland.) I. M. Johnst. (Boraginaceae) (Borowiec, 1999; Riley, 1986a; Riley *et al.*, 2002). It has also been reported from *Solanum xanti* A. Gray (Solanaceae) (Carr, 1988); however, this was apparently based on confusion with *Cassida texana* Crotch, a synonym of *Gratiana pallidula* (Boheman).

***Coraia subcyanescens* (Schaeffer).** Riley *et al.* (2002) stated that larvae and adults feed on *Karwinskia* (Rhamnaceae). In previously unpublished investigations, we have collected adults from *K. humboldtiana* (Willd. ex Roem. & Schult.) Zucc., and larvae presumably belonging to this species were found in association with adults on the foliage of this plant.

***Coscinoptera aeneipennis* (LeConte).** This species has been recorded in association with *Acacia*, *Lotus scoparius* (Nutt. ex Torr. & A. Gray) Ottley, *Prosopis glandulosa* J. Torr. (Fabaceae); *Eriogonum fasciculatum* Benth. and *E. gracile* Benth. (Polygonaceae) (Hespenheide, 1996; Moldenke, 1970; Slosser, 2003; Ward *et al.*, 1977). Beyond Fabaceae and Polygonaceae, it has also been collected from Asteraceae, including *Gutierrezia sarothrae* (Pursh) N. L. Britt. & Rusby and *Isocoma veneta* (Kunth) Greene (Moore, 1937; Rouse & Medvedev, 1972; Ward *et al.*, 1977).

***Crepidodera aereola* (LeConte).** This species has been reported from *Salix lasiolepis* Benth. (Salicaceae) (Carr, 1988; Parry, 1986; Raizenne, 1975).

***Crepidodera bella* Parry.** These insects are associated with species of *Salix* (Salicaceae), including *S. nigra* Marsh. (Parry, 1986; Seago & Lingafelter, 2003). In previously unpublished investigations, we confirm the association with *S. nigra*, having collected adults of this beetle species from this plant in both Louisiana and Texas.

Lago *et al.* (2002) reported a specimen swept from a meadow dominated by *Distichlis spicata* (L.) Greene (Poaceae). However, this should not be interpreted as a host association.

***Crepidodera browni* Parry.** Hosts are species of *Salix* (Salicaceae), including *S. fragilis* L. and *S. nigra* Marsh. (Clark, 2000; Downie & Arnett, 1996; Parry, 1986; Seago & Lingafelter, 2003). Additionally, Parry (1986) reported material collected from *Prunus americana* Marsh., *P. persica* (L.) Batsch, and *P. serotina* Ehrh. (Rosaceae), but he suspected that these associations were adventitious.

***Crepidodera decora* Parry.** This species has been found most frequently on *Salix* (Salicaceae), having been recorded from *S. bebbiana* Sarg., *S. discolor* Muhl., *S. fragilis* L., *S. lucida* Muhl., *S. petiolaris* J. E. Smith, and from a hybrid derived from *S. alba* L. and *S. fragilis* (Downie & Arnett, 1996; Parry, 1986). In previously unpublished investigations, we have collected *C. decora* in Missouri from *S. humilis* Marsh.

This beetle species has sometimes also been found on species of *Populus* (Salicaceae), including *P. balsamifera* L. and *P. tremuloides* Michx. (Downie & Arnett, 1996; Parry, 1986).

***Crepidodera digna* Parry.** Hosts are usually species of *Salix* (Salicaceae), *C. digna* having been reported from *S. lucida* Muhl., *S. petiolaris* J. E. Smith, and *S. pyrifolia* Anderss. (Downie & Arnett, 1996; Parry, 1986). However, beetles have sometimes also been found on species of *Populus* (Salicaceae), including *P. balsamifera* L. and *P. tremuloides* Michx. (Downie & Arnett, 1996; Parry, 1986).

***Crepidodera heikertingeri* (Lazorko).** This species is associated with Salicaceae, having been reported from *Populus tremuloides* Michx., *P. trichocarpa* J. Torr. & A. Gray ex Hook., *Salix bebbiana* Sarg., *S. discolor* Muhl., *S. fragilis* L., *S. lucida* Muhl., *S. petiolaris* J. E. Smith, and a hybrid derived from *S. alba* L. and *S. fragilis* (Downie & Arnett, 1996; Lazorko, 1974; Parry, 1986). In previously unpublished field work in West Virginia, we have collected a series from *Salix sericea* Marsh.

***Crepidodera longula* Horn.** Hosts are species of *Salix* (Salicaceae), including *S. nigra* Marsh. (Balsbaugh & Hays, 1972; Blatchley, 1910; Clark, 2000; Douglass, 1929; Downie & Arnett, 1996; Parry, 1986; Riley & Enns, 1979; Wilcox, 1954, 1979).

***Crepidodera luminosa* Parry.** Hosts are species of *Salix* (Salicaceae), including *S. interior* Rowlee [*S. exigua* ssp. *interior* (Rowlee) Cronquist] (Clark, 2000; Downie & Arnett, 1996; LeSage, 1993; Parry, 1986).

***Crepidodera nana* (Say).** This species is usually associated with *Salix* (Salicaceae), having been recorded from *S. discolor* Muhl., *S. exigua* Nutt., *S. fragilis* L., *S. humilis* Marsh., *S. lucida* Muhl., *S. nigra* Marsh., *S. petiolaris* J. E. Smith, *S. purpurea* L., *S. repens* L., and *S. sericea* Marsh. (Balsbaugh & Hays, 1972; Burke *et al.*, 1974; Carr, 1988; Clark, 2000; Dillon & Dillon, 1961; Hatch, 1971; McDaniel *et al.*, 1992; Messina & Root, 1980; Parry, 1986; Raizenne, 1975; Riley & Enns, 1979; Rouse & Medvedev, 1972; Wilcox, 1954).

Beyond the records mentioned above, Parry (1986) reported *C. nana* from *Salix patula*, but he did not indicate the author of this plant. This association could have been based on any of three homonyms, all of which are now considered to be synonyms of other names: *S. patula* Ser. [*S. incana* Michx.], *S. patula* Schleich. ex Ser. [*S. nigricans* Smith], and *S. patula* Kern. ex Anderss. [*S. oleaefolia* Vill.].

These beetles have also been reported from species of *Populus* (Salicaceae), including *P. balsamifera* L., *P. deltoides* Marshall, and *P. grandidentata* Michx. (Clark, 2000; Dillon & Dillon, 1961; Downie & Arnett, 1996; Edelson & Hyche, 1980; Hatch, 1971; Kirk, 1970; Lazorko, 1974; Parry, 1986; Raizenne, 1975; Riley & Enns, 1979; Wilcox, 1954, 1979). Unfortunately, some of these reports predate Parry's (1986) taxonomic revision, and the identity of the insects is therefore questionable.

Additionally, *C. nana* has been reported from *Crataegus*, *Malus x domestica* Borkh. [*M. sylvestris* P. Mill.], *Prunus americana* Marsh. (Rosaceae), *P. persica* (L.) Batsch, pear [*Pyrus*], *Rubus* and *Spiraea* (Rosaceae) (Brown *et al.*, 1988; Downie & Arnett, 1996; Hatch, 1971; Parry, 1986). However, these associations were likely either adventitious or based on misidentifications of *C. violacea* Melsheimer.

Messina & Root (1980) reported two specimens of *C. nana* swept from *Solidago* (Asteraceae). However, they rightly considered their capture on this plant to be incidental. Beetles have also been reported from *Acer* (Aceraceae); *Daucus carota* L. (Apiaceae); *Asclepias syriaca* L. (Asclepiadaceae); "*Ulnus*" [probably either *Alnus* (Betulaceae) or *Ulmus* (Ulmaceae)]; *Betula* (Betulaceae); sugar beet [*Beta vulgaris* L.] (Chenopodiaceae); *Kalmia* (Ericaceae); *Cercis canadensis* L. (Fabaceae); *Quercus palustris* Muenchh., *Q. rubra* L. (Fagaceae); *Sphaeralcea* (Malvaceae); and *Vitis* (Vitaceae) (Bray & Triplehorn, 1953; Dailey *et al.*, 1978; Hatch, 1971; Knowlton & Smith, 1935; Lago & Mann, 1987; Lee, 1949; McGiffin & Neunzig, 1985). However, these associations were probably likewise adventitious. Moreover, as some of them predate significant taxonomic revision, the identity of the beetles is questionable.

***Crepidodera opulenta* (LeConte).** Parry (1986) indicated that this species is restricted to *Salix* (Salicaceae). Popenoe (1878) also reported "*Crepidodera* var. *opulenta*" from willow [*Salix*], but his record was from Kansas, far outside the recognized range of this beetle species, and it was therefore probably based on misidentification.

***Crepidodera populivora* Parry.** This species usually occurs on *Populus* (Salicaceae), having been reported from *P. balsamifera* L., *P. grandidentata* Michx., *P. tremuloides* Michx., and *P. trichocarpa* J. Torr. & A. Gray ex Hook. (Clark, 2000; Downie & Arnett, 1996; Parry, 1986). However, it sometimes has been

found also on species of *Salix* (Salicaceae), including *S. discolor* Muhl., *S. fragilis* L., *S. lucida* Muhl., and *S. petiolaris* J. E. Smith (Downie & Arnett, 1996; Parry, 1986). Additionally, it has been reported from *Crataegus* and *Prunus* (Rosaceae) (Downie & Arnett, 1996; Parry, 1986), but these occurrences were likely incidental.

***Crepidodera sculpturata* (Lazorko).** Hosts are species of *Salix* (Salicaceae), including *S. cordata* Michx., *S. exigua* Nutt., and *S. petiolaris* J. E. Smith (Downie & Arnett, 1996; Lazorko, 1974; Parry, 1986).

***Crepidodera solita* Parry.** This species is most frequently found on *Salix* (Salicaceae), having been reported from *S. alba* L., *S. cordata* Michx., *S. discolor* Muhl., *S. interior* Rowlee [*S. exigua* ssp. *interior* (Rowlee) Cronquist], *S. fragilis* L., *S. nigra* Marsh., and *S. petiolaris* J. E. Smith (Clark, 2000; Downie & Arnett, 1996; Parry, 1986). However, it has sometimes also been found on species of *Populus* (Salicaceae), including *P. balsamifera* L., *P. deltoides* Marshall, *P. grandidentata* Michx., and *P. tremuloides* Michx. (Clark, 2000; Downie & Arnett, 1996; Parry, 1986).

***Crepidodera spenceri* (Lazorko).** This species normally occurs on *Salix* (Salicaceae) (Lazorko, 1974; Parry, 1986). However, it has also been recorded from *Populus tremuloides* Michx. (Salicaceae) (Parry, 1986).

***Crepidodera vaga* Parry.** This species occurs on *Populus deltoides* Marshall (Salicaceae) (Clark, 2000; Downie & Arnett, 1996; Parry, 1986).

***Crepidodera violacea* Melsheimer.** Hosts are Rosaceae, including *Amelanchier*, *Crataegus*, *Prunus americana* Marsh., *P. angustifolia* Marsh., *P. pensylvanica* L., *P. persica* (L.) Batsch, *P. serotina* Ehrh., *P. virginiana* L., and “? *Pyrus* L.” (Chittenden, 1925b; Clark, 2000; Downie & Arnett, 1996; Lazorko, 1974; Parry, 1986; Popenoe, 1878; Raizenne, 1975; Riley & Enns, 1979; Wilcox, 1954, 1979). This beetle species has also been reported from honeysuckle [likely *Lonicera*] (Caprifoliaceae) and *Ulmus* (Ulmaceae) (Lazorko, 1974; Rouse & Medvedev, 1972).

***Crepidodera* spp.** In general, North American records for most species of *Crepidodera* prior to the taxonomic revision of Parry (1986) should be viewed as questionable, the beetles frequently being misidentified. Many of the preceding host records should be interpreted with caution.

The Old World species *Crepidodera helxines* (Linnaeus) has been reported from North America in association with *Acer pensylvanicum* L., *A. spicatum* Lam. (Aceraceae); *Betula* (Betulaceae); *Beta vulgaris* L. (Chenopodiaceae); *Kalmia angustifolia* L. (Ericaceae); *Crataegus coccinea* auct. non L. [*C. intricata* Lange], *Pyrus malus* L. [*Malus sylvestris* P. Mill.], *Prunus pensylvanica* L. f., *P. virginiana* L., *Pyrus communis* L., *Rubus*, *Spiraea latifolia* (Ait.) Borkh. [*S. alba* var. *latifolia* (Ait.) Dippel] (Rosaceae); *Populus balsamifera* L., *P. grandidentata* Michx., Lombardy poplar [*P. nigra* L.], *P. dilatata* Ait. [*P. pyramidalis* Salisb.], *P. tremuloides* Michx., *Salix discolor* Muhl., shiny leaf willow [*S. lucida* Muhl.], *S. petiolaris* J. E. Sm., *S. rostrata* Richards. (Salicaceae); and *Ulmus* (Ulmaceae) (Beller & Hatch, 1932; Beutenmüller, 1890a; Blatchley, 1910, 1924a; Britton & Zappe, 1927; Clark, 2000; Dearborn & Donahue, 1993; Doane *et al.*, 1936; Douglass, 1929; Dozier, 1922; Duckett, 1920; Essig, 1958; Fall, 1901; Felt, 1907; Hamilton, 1894b, 1895; Hatch, 1924a; Hopkins, 1893; Johnson, 1927; Lintner, 1888; Löding, 1945; Lovell, 1915; Lugger, 1899; Moore, 1937; Packard, 1890; Proctor, 1938, 1946; Slingerland & Crosby, 1915; Smith, 1900, 1910a; Stace Smith, 1930; Stirrett, 1924; Ulke, 1903; Webster, 1881; Wellhouse, 1922; Wickham, 1896b, 1902; Young, 1906). The Old World species *Crepidodera fulvicornis* (Fabricius), has been reported from North America in association with “les Saules” [*Salix*] (Salicaceae) (Chagnon, 1938; Chagnon & Robert, 1962). Additionally, Howden & Vogt (1951) reported *C. fulvicornis* from bark of *Pinus virginiana* P. Mill. (Pinaceae), but they rightly treated this as a chance occurrence. All of these associations involved misidentified beetles. Those dealing with Rosaceae were probably based on *C. violacea* Melsheimer, but it difficult or impossible to ascertain which beetle species were involved with the other associations. In any case, reports involving families other than Rosaceae or Salicaceae were likely based on incidental occurrences.

***Crioceris asparagi* (Linnaeus).** This species, including Palearctic populations, is well documented for its often pestiferous association with *Asparagus officinalis* L. (Liliaceae) (Anonymous, 1894b; Arnett, 1985; Balsbaugh & Hays, 1972; Beirne, 1971; Beller & Hatch, 1932; Beutenmüller, 1890a; Bland & Jaques, 1978; Blatchley, 1910; Borror *et al.*, 1989; Brimley, 1938; Brisley, 1928; Capinera & Lilly, 1975; Carr, 1988; Chagnon, 1917, 1937; Chagnon & Robert, 1962; Chittenden, 1896b, 1897d, 1907b, 1908, 1909b, 1912b, 1917; Chupp & Leiby, 1953; Clark, 2000; Clausen, 1978; Comstock, 1880, 1925; Comstock *et al.*, 1931; Cranshaw, 1992; Crosby & Leonard, 1918; Davidson, 1931; Davidson & Lyon, 1987; Dearborn & Donahue, 1993; Dillon & Dillon, 1961; Downie & Arnett, 1996; Drake & Harris, 1927, 1932; Dustan, 1932; Edwards, 1949; Essig, 1913, 1915b, 1958; Essig & Hoskins, 1944; Fabricius, 1792, 1801; Felt, 1902a, 1903; Fink, 1913; Gentry, 1965; Harrington, 1883; Harris, 1931; Hatch, 1971; Hopkins & Rumsey, 1896; Horne & Essig, 1921; Hutson, 1937; Jaques, 1951; Kirk, 1969, 1970; Knowlton, 1939, 1951a, 1957a; Lawson, 1991; Linnaeus, 1758; Lopatin, 1984; Lugger, 1899; Matheson, 1944; Metcalf & Metcalf, 1993; Milliron, 1958; Mohr, 1966; Monró, 1959a; Morris, 1911, 1914b; Müller, 1764; Orton & Chittenden, 1917; Packard, 1877, 1888; Papp,

1984; Peterson, 1960; Petitpierre *et al.*, 2000; Portman & Manis, 1954; Riley & Enns, 1979; Riley *et al.*, 2002; Ross, 1965; Russell, 1968; Sanderson & Peairs, 1931; Schmitt, 1988; Schrank, 1781; Selman, 1994; Smith, 1900, 1910a; Sorensen & Baker, 1983; Steinhausen, 1996; Swain, 1948; Swan & Papp, 1972; Tetrault, 1980, 1982; Ulke, 1903; Vig, 1996; Vig & Rozner, 1996; Walsh & Riley, 1869a; Webster, 1893b; Westcott, 1946; White, 1983, 1993; Wickham, 1896a; Wilcox, 1954, 1979).

In the Old World, *C. asparagi* has also been reported from *Asparagus acutifolius* L. and “*A. filiformis*” [*A. filifolius* Bertol.] (Petitpierre *et al.*, 2000; Schmitt, 1988). Additionally, Pirone (1970) recorded *C. asparagi* from “asparagus-fern” which he suspected was either *A. sprengeri* Regel [*A. densiflorus* (Kunth) Jessop] or *A. plumosus* Baker [*A. setaceus* (Kunth) Jessop]. Westcott (1946) stated that this beetle species sometimes defoliates “Asparagus Fern (*Smilax*).” However, this was almost certainly in error. Asparagus-fern, at least with regards to *Crioceris*, should be interpreted as some species of *Asparagus*, rather than a species of *Smilax* (Smilacaceae).

Beyond this, *C. asparagi* has been recorded from *Asclepias syriaca* L. (Asclepiadaceae) and *Malus x domestica* Borkh. [*M. sylvestris* P. Mill.] (Rosaceae) (Brown *et al.*, 1988; Dailey *et al.*, 1978). These occurrences were certainly incidental.

***Crioceris duodecimpunctata* (Linnaeus).** This species, including Palearctic populations, is well documented for its association with *Asparagus officinalis* L. (Liliaceae) (Arnett, 1985; Beirne, 1971; Beutenmüller, 1890a; Biondi, 1993; Borror *et al.*, 1989; Brisley, 1928; Britton, 1903; Carr, 1988; Chagnon, 1917, 1937; Chagnon & Robert, 1962; Chittenden, 1896b, 1897d, 1907b, 1908, 1912b, 1917; Chupp & Leiby, 1953; Clark, 2000; Cranshaw, 1992; Crosby & Leonard, 1918; Davidson & Lyon, 1987; Dearborn & Donahue, 1993; Dillon & Dillon, 1961; Downie & Arnett, 1996; Drake & Harris, 1932; Dustan, 1932; Edwards, 1949; Fabricius, 1792, 1801; Felt, 1902a, 1903; Fink, 1913; Goidanich, 1956; Hamilton, 1894b; Hatch, 1971; Hutson, 1937; Jaques, 1951; Jolivet & Verma, 2002; Kirk & Balsbaugh, 1975; Knowlton, 1957a; Lawson, 1991; Lopatin, 1984; Matheson, 1944; Maw, 1976a; Metcalf & Metcalf, 1993; Milliron, 1958; Mohr, 1966; Monrós, 1959a; Morris, 1913, 1914b; Müller, 1764; Orton & Chittenden; Papp, 1984; Peterson, 1960; Petitpierre *et al.*, 2000; Portman & Manis, 1954; Riley & Enns, 1979; Riley *et al.*, 2002; Russell, 1968; Sailsbury, 1943; Sanderson & Peairs, 1931; Schmitt, 1988; Schrank, 1781; Smith, 1893a, 1900, 1910a; Sorensen & Baker, 1983; Steinhausen, 1996; Swan & Papp, 1972; Tetrault, 1982; Ulke, 1903; Vig, 1996, 1997; Vig & Rozner, 1996; Westcott, 1946; White, 1983, 1993; Wickham, 1896a; Wilcox, 1954, 1979).

In the Old World, this beetle species has also been associated with *Asparagus acutifolius* L. and *A. filifolius* Bertol. (Goidanich, 1956; Petitpierre *et al.*, 2000; Schmitt, 1988). Under experimental conditions, *C. duodecimpunctata* has fed on *A. verticillatus* L. (Schmitt, 1988). Westcott (1946) stated that this beetle species sometimes defoliates “Asparagus Fern (*Smilax*).” However, this was almost certainly in error. Asparagus-fern, at least with regards to *Crioceris*, should be interpreted as some species of *Asparagus*, rather than a species of *Smilax* (Smilacaceae).

Story *et al.* (1985) included *C. duodecimpunctata* in a list of insects collected from *Cirsium arvense* (L.) Scop. (Asteraceae). However, Maw (1976a) rightly regarded collections from *C. arvense* as adventitious.

***Cryptocephalus albicans* Haldeman.** White (1968) reported two specimens collected from *Cassia* (Fabaceae). Sundman (1965) recorded specimens labeled from ragweed [*Ambrosia*] (Asteraceae), cotton [*Gossypium*] (Malvaceae), and coffee bean [*Coffea arabica* L.] (Rubiaceae), but his material was from Texas, beyond the generally recognized range of this beetle species, and the identification is therefore doubtful.

***Cryptocephalus alternans* Suffrian.** In previously unpublished field work in California, we have collected a very large series of the subspecies *C. a. jungovittatus* White by sweeping *Artemisia* (Asteraceae).

***Cryptocephalus amatus* Haldeman.** While investigating the insects associated with *Baccharis pteronioides* DC. (Asteraceae), Boldt & Robbins (1984) found this species to be present, although relatively rare. Similarly, Foster *et al.* (1981) found adults rarely while surveying the insects associated with *Gutierrezia sarothrae* (Pursh) N. L. Britt. & Rusby (Asteraceae). Also, White (1968) recorded a specimen collected from *Solanum elaeagnifolium* Cav. (Solanaceae).

In previously unpublished investigations, we have collected this beetle species from *Artemisia filifolia* J. Torr. (Asteraceae) in the Texas Panhandle. We have also seen three specimens of the subspecies *C. a. fractilineatus* White labeled from New Mexico in associations with *Ericameria nauseosa* (Pall. ex Pursh) Nesom & Baird (Asteraceae). Records maintained by the USDA-ARS Grassland, Soil and Water Research Laboratory state that adults of *C. a. amatus* in Texas and northeastern Mexico have been found feeding on leaves of *Baccharis pteronioides* and *B. salicina* J. Torr. & A. Gray, and that adults of *C. a. apicedens* Fall have been found feeding on leaves of *B. pteronioides* (Asteraceae) in Culberson County, Texas (Thomas O. Robbins, pers. comm.).

***Cryptocephalus andrewsi* Riley & Gilbert.** This species has been collected from *Hemizonia fasciculata* (DC.) J. Torr. & A. Gray (Asteraceae) and *Eriogonum* (Polygonaceae) (Riley & Gilbert, 2000).

***Cryptocephalus arizonensis* Schaeffer.** This species has been reported from oak [*Quercus*] (Fagaceae) (Schaeffer, 1906; White, 1968). In previously unpublished investigations in Texas, we have collected adults from *Quercus fusiformis* Small and *Q. mohriana* Buckl. ex Rydb. Also in Texas, we have collected adults from *Ceanothus fendleri* A. Gray (Rhamnaceae).

***Cryptocephalus atrofasciatus* Jacoby.** This species has been beaten from pine [*Pinus*] (Pinaceae) (Fall & Cockerell, 1907; Schaeffer, 1906). In previously unpublished investigations, we have seen specimens labeled from Colorado in association with Ponderosa pine [*Pinus ponderosa* Dougl. ex Lawson & C. Lawson].

***Cryptocephalus aulicus* Haldeman.** This species has been reported from *Asimina pygmaea* (Bartr.) Dun. (Annonaceae); *Befaria racemosa* Ventenat and small leaved huckleberry [*Gaylussacia*] (Ericaceae) (Beutenmüller, 1890a; White, 1968).

***Cryptocephalus badius* Suffrian.** This species has been reported from *Cercis canadensis* L. (Fabaceae); *Carya amara* Nutt., black walnut [*Juglans nigra* L.] (Juglandaceae); *Gossypium* (Malvaceae); basswood [*Tilia*] and linden [*Tilia*] (Tiliaceae) (Blatchley, 1924a; Downie & Arnett, 1996; Dozier, 1918, 1920; Harrington, 1884; Lee, 1949; White, 1968; Wilcox, 1954, 1979).

***Cryptocephalus basalis* Suffrian.** Douglass (1929) reported Kansas material collected from *Rhus glabra* L. (Anacardiaceae) and sorghum [*Sorghum*] (Poaceae), but White (1968) questioned these records. Beyond this, Blatchley (1910) reported material from Indiana beaten from oak [*Quercus*] (Fagaceae), and MacAloney (1950) recorded this beetle species from eastern North America in association with birch [*Betula*] (Betulaceae). Eastern localities (certainly Indiana and perhaps also Kansas) are outside the generally accepted range of this more western and southern beetle species, and these associations were likely based on misidentifications.

In previously unpublished investigations, we have collected a specimen of *C. basalis* from *Mimosa* (Fabaceae) in Arizona. Additionally, we have seen a specimen labeled from Texas in association with *Sapindus drummondii* Hook. & Arn. (Sapindaceae).

***Cryptocephalus binominis* Newman.** This species has been recorded from *Gaylussacia*, *Vaccinium* (Ericaceae); *Quercus* (Fagaceae); *Pinus sylvestris* L. (Pinaceae); and blackberry [*Rubus*] (Rosaceae) (Balsbaugh & Hays, 1972; Beutenmüller, 1890a; Blatchley, 1924a; Clark, 2000; Peck & Thomas, 1998; Staines, 1999; Webster, 1893a; White, 1968; Wilcox, 1979).

***Cryptocephalus bispinus* Suffrian.** This species has been collected from *Eupatorium leptophyllum* DC. (Asteraceae); *Stillingia sylvatica* L. (Euphorbiaceae); *Quercus falcata* Michx., *Q. laevis* Walt. (Fagaceae); and *Saccharum officinarum* L. (Poaceae) (Flowers *et al.*, 1994; Peck & Thomas, 1998; White, 1968; Wilcox, 1979). Additionally, records maintained by the USDA-ARS Grassland, Soil and Water Research Laboratory state that adults of *C. bispinus* in Bell County, Texas have been collected by beating and sweeping *Gutierrezia dracunculoides* (DC.) Hoffm. and *G. texana* (DC.) Torr. & Gray (Asteraceae) (Thomas O. Robbins, pers. comm.).

***Cryptocephalus bivius* Newman.** This species has been recorded in association with huckleberry [*Gaylussacia*] (Ericaceae), oak [*Quercus*] (Fagaceae), and *Taxodium distichum* (L.) L. C. Rich. (Taxodiaceae) (Balsbaugh & Hays, 1972; Blatchley, 1914, 1924a; Löding, 1945; Schwarz, 1878).

***Cryptocephalus brunneovittatus* Schaeffer.** This species has been reported from *Rhynchosia minima* (L.) DC. and cowpea [*Vigna unguiculata* Clav.] (Fabaceae) (White, 1968). Additionally, Foster *et al.* (1981) found adults to be rarely present while surveying the insects associated with *Gutierrezia sarothrae* (Pursh) N. L. Britt. & Rusby (Asteraceae). Records maintained by the USDA-ARS Grassland, Soil and Water Research Laboratory state that adults of *C. brunneovittatus* in Bell County, Texas have been collected by sweeping foliage of *Gutierrezia texana* (DC.) Torr. & Gray (Asteraceae) (Thomas O. Robbins, pers. comm.).

***Cryptocephalus calidus* Suffrian.** This species has been recorded from Fabaceae, including *Amorpha canescens* Pursh, *Lathyrus japonicus* Willd., and *Lespedeza cuneata* (Dum.-Cours.) G. Don (Balsbaugh & Hays, 1972; Downie & Arnett, 1996; Hendrickson, 1930b; White, 1968; Wilcox, 1979). It has also been reported from *Helianthus grosseserratus* Martens (Asteraceae), huckleberry [*Gaylussacia*] (Ericaceae), cotton [*Gossypium*] (Malvaceae), and bluegrass [*Poa*] (Poaceae) (Ashmead, 1894; Blatchley, 1924a; Hendrickson, 1930b; Trippel, 1934). In previously unpublished investigations in Wisconsin, Andrew H. Williams (pers. comm.) has confirmed the association with *Amorpha canescens*.

***Cryptocephalus castaneus* LeConte.** This species has been reported from holly [*Ilex*] (Aquifoliaceae); *Alnus* (Betulaceae); wild licorice [*Glycyrrhiza lepidota* Nutt. ex Pursh], alfalfa [*Medicago sativa* L.] (Fabaceae); walnut [*Juglans*] (Juglandaceae); *Pinus lambertiana* Dougl. (Pinaceae); *Fragaria*, *Prunus*, *Rosa*, *Rubus* (Rosaceae); *Salix* (Salicaceae); and *Anemopsis* (Saururaceae) (Anonymous, 1966b; Carr, 1988; Essig, 1915b, 1958; Moore, 1937; White, 1968). *Salix* is reported to be the normal food plant (Essig, 1915b, 1958). However, in previously unpublished investigations, we collected a very large series of *C. castaneus* in California from *Anemopsis californica* Hook. & Arn. (Saururaceae).

***Cryptocephalus cerinus* White.** This species has been reported from *Ericameria nauseosa* var. *mo-havensis* (Greene) Nesom & Baird, *Gutierrezia sarothrae* (Pursh) N. L. Britt. & Rusby (Asteraceae); grease-wood [*Sarcobatus vermiculatus* (Hook.) J. Torr.] (Chenopodiaceae); and *Larrea tridentata* (Sesse & Moçifio ex DC.) Coville (Zygophyllaceae) (Carr, 1988; Foster *et al.*, 1981; White, 1937, 1968). Records maintained by the USDA-ARS Grassland, Soil and Water Research Laboratory state that adults of the subspecies *C. c. cerinus* in New Mexico, Texas, and Mexico have been found feeding on leaves of *Larrea tridentata* (Thomas O. Robbins, pers. comm.).

***Cryptocephalus confluentus* Say.** This species is apparently associated with Asteraceae. It has been reported from *Artemisia*, *Baccharis pilularis* DC., *Chrysothamnus viscidiflorus* (Hook.) Nutt., *Ericameria nauseosa* (Pall. ex Pursh) Nesom & Baird, *Flourensia cernua* DC., and *Gutierrezia microcephala* (DC.) A. Gray (Carr, 1988; Foster *et al.*, 1981; Horning & Barr, 1970; Lavigne, 1976; Lawson, 1991; Richerson & Boldt, 1995; Sundman, 1965; Tilden, 1949, 1951; White, 1968; Wickham, 1902).

In previously unpublished field work in northwestern Texas, we have collected adults of this beetle species from *Artemisia filifolia* J. Torr. Records maintained by the USDA-ARS Grassland, Soil and Water Research Laboratory state that adults of the subspecies *C. c. confluentus* in New Mexico and Texas have been found feeding on leaves of *Baccharis pteronioides* DC. and *Flourensia cernua*, and that adults of a species near *C. confluentus* in Arizona have been swept from foliage of *Baccharis sarothroides* A. Gray (Thomas O. Robbins, pers. comm.).

***Cryptocephalus cowaniae* Schaeffer.** This species has been collected from *Purshia stansburiana* (Torr.) Henrickson (Rosaceae) (Schaeffer, 1934; White, 1968).

***Cryptocephalus cribripennis* LeConte.** This species has been recorded from *Baccharis neglecta* Britt. (Asteraceae); *Prosopis*, black-eyed pea [*Vigna unguiculata* Clav.] (Fabaceae); cotton [*Gossypium*] (Malvaceae); orange [*Citrus*] (Rutaceae); and marsh willow [*Salix nigra* Marsh.] (Salicaceae) (Palmer, 1987; Sundman, 1965; Ward *et al.*, 1977; White, 1968). In previously unpublished field work, we have collected adults from *Prosopis glandulosa* J. Torr. (Fabaceae) in southern Texas.

***Cryptocephalus cupressi* Schaeffer.** This species has been associated with cypress [likely *Chamaecyparis* or *Cupressus* (Cupressaceae), or *Taxodium* (Taxodiaceae)] (Schaeffer, 1933; White, 1968).

***Cryptocephalus defectus* LeConte.** This species has been reported from willow [*Salix*] (Salicaceae) (Blatchley, 1924a). However, this was based on specimens of *C. sanfordi* Blatchley, a taxon that was once considered synonymous with *C. defectus* but is now treated instead as a synonym of *C. luteolus* Newman.

***Cryptocephalus dorsatus* White.** White (1968) reported a specimen that was collected by sweeping *Eriogon* and *Gutierrezia microcephala* (DC.) A. Gray (Asteraceae).

***Cryptocephalus duryi* Schaeffer.** White (1968) reported a specimen collected from a mimosa leaf [*Albicia* or *Mimosa*] (Fabaceae). In previously unpublished investigations, we have collected *C. duryi* in southern Texas from *Salix exigua* Nutt. (Salicaceae).

***Cryptocephalus falli* Schöller.** *Cryptocephalus ochraceus* Fall is a synonym of *C. falli*. Possibly, this is the name that Sweet (1930) intended when he recorded "*Saxinis ochracea* Lec." from *Artemisia californica* Less. (Asteraceae). However, his report was from California, far beyond the range of this Floridian beetle species, and it must have been based on some other species.

***Cryptocephalus fulguratus* LeConte.** Stiefel (1993) reported larvae of this species feeding on wood of a decaying log, too decomposed for positive identification but thought to be *Quercus macrocarpa* Michx. (Fagaceae). White (1968) also recorded *C. fulguratus* from oak [*Quercus*]. Beyond this, *C. fulguratus* has been reported from soybean [*Glycine max* (L.) Merr.], mesquite [*Prosopis*] (Fabaceae); and cotton [*Gossypium*] (Malvaceae) (Rouse & Medvedev, 1972; Sundman, 1965; Ward *et al.*, 1977). In previously unpublished field work, we have collected adults from *Quercus buckleyi* Nixon & Dorr and *Q. fusiformis* Small (Fagaceae) in Texas.

***Cryptocephalus gibbicollis* Haldeman.** *Kalmia angustifolia* L. (Ericaceae) has been recorded as a host (Balsbaugh & Hays, 1972; Downie & Arnett, 1996; White, 1968; Wilcox, 1979). Also, this beetle species has been reported from low huckleberry [*Gaylussacia*] (Ericaceae) (Smith, 1910a).

In previously unpublished investigations, we have reared two adults of this beetle species from large, case-bearing larvae found on *Vaccinium* (Ericaceae) in central Louisiana. These larvae fed on both fresh and dead leaves of the host. We have also collected adults from *V. virgatum* Ait. in eastern Texas.

***Cryptocephalus guttulatellus* Schaeffer.** Schaeffer (1904) reported "*Cryptocephalus quatuordecimpus-tulatus* Suffrian" from a plant he believed to be *Acacia flexicaulis* Benth. [*Ebenopsis ebano* (Berl.) Barneby & Grimes] (Fabaceae). Later, Schaeffer (1920) noted that the true identity of the beetles was *C. guttulatellus*. White (1968) recorded a single specimen from *Celtis* (Ulmaceae). Sundman (1965) recorded material labeled from honey locust [*Gleditsia triacanthos* L.] (Fabaceae) and chinaberry [*Melia azedarach* L.] (Meliaceae), but he apparently did not distinguish *C. guttulatellus* from *C. guttulatus* Olivier.

***Cryptocephalus guttulatus* Olivier.** This species has been recorded from *Diospyros virginiana* L. (Ebenaceae); *Cercis canadensis* L., *Gleditsia triacanthos* L. (Fabaceae); white oak [*Quercus alba* L.] (Fagaceae); hickory [*Carya*], black walnut [*Juglans nigra* L.] (Juglandaceae); okra [*Abelmoschus esculentus* (L.) Moench], cotton [*Gossypium*] (Malvaceae); loblolly pine [*Pinus taeda* L.] (Pinaceae); *Salix* (Salicaceae); and *Sapindus drummondii* Hook. & Arn. (Sapindaceae) (Blatchley, 1910, 1924a, 1928; Burke *et al.*, 1974; Douglass, 1929; Downie & Arnett, 1996; Dozier, 1918, 1920; Felt, 1907; Flowers *et al.*, 1994; Hamilton, 1895; Kirk, 1970; Lee, 1949; Peck & Thomas, 1998; Rouse & Medvedev, 1972; Smith, 1900, 1910a; White, 1968; Wilcox, 1979).

***Cryptocephalus implacidus* White.** In previously unpublished field work, we have collected adults of this species from *Quercus harvardii* Rydb. and *Q. vaseyana* Buckl. (Fagaceae) in central Texas, and from *Rubus* (Rosaceae) in Louisiana.

***Cryptocephalus incertus* Olivier.** This species has been reported from hazel [*Corylus*] (Betulaceae); *Cucumis sativus* L. (Cucurbitaceae); *Gaylussacia baccata* (Wang.) K. Koch, *Leucothoe racemosa* (L.) A. Gray, *Pieris nitida* (Bartram ex Marshall) Benth. & Hook. f., *Vaccinium corymbosum* L., *V. macrocarpon* Ait. (Ericaceae); *Myrica cerifera* L. (Myricaceae); and *Prunus maritima* H. Marsh. (Rosaceae) (Blatchley, 1914, 1924a; Clark, 2000; Downie & Arnett, 1996; Erber, 1988; Franklin, 1950; Johnson, 1927; Proctor, 1938, 1946; White, 1968; Wilcox, 1979). It has also been swept from grass [Poaceae] (Dozier, 1922), but sweeping records, without further evidence, should not be interpreted as host associations.

***Cryptocephalus insertus* Haldeman.** This species has been found on *Desmodium* (Fabaceae) and *Comptonia peregrina* (L.) Coult. (Myricaceae) (Clark, 2000; Downie & Arnett, 1996; White, 1968; Wilcox, 1979). Additionally, Hendrickson (1930b) reported two specimens, one swept from *Senecio aureus* L. (Asteraceae) and the other swept from *Psoralea argophylla* Pursh (Fabaceae). However, sweeping records should not necessarily be interpreted as host associations.

***Cryptocephalus irroratus* Suffrian.** In Florida, this species has been associated with *Byrsonima lucida* (Mill.) DC. (Malpighiaceae) (Riley & Gilbert, 2000). In Mexico, it has been found occasionally on *Parthenium hysterophorus* L. (Asteraceae) (McClay *et al.*, 1995).

***Cryptocephalus lateritius* Newman.** This species has been reported from *Pieris nitida* (Bartram ex Marshall) Benth. & Hook. f., *Xolisma ferruginea* (Walt.) A. Heller (Ericaceae); *Quercus virginiana* P. Mill. (Fagaceae); and *Prunus angustifolia* Marsh. (Rosaceae) (Blatchley, 1914, 1924a; Clark, 2000; White, 1968).

***Cryptocephalus leucomelas* Suffrian.** This species is associated Salicaceae, having been reported from *Populus*, *Salix interior* Rowlee [*S. exigua* ssp. *interior* (Rowlee) Cronquist], *S. humilis* Marsh., and “*Salix presidio*” (Balsbaugh & Hays, 1972; Blatchley, 1910; Clark, 2000; Downie, 1957; Downie & Arnett, 1996; Felt, 1907; Knowlton, 1957a; Riley & Enns, 1979; Smith, 1900, 1910a; White, 1968; Wilcox, 1954, 1979). In previously unpublished field work in Missouri, we have found adults in association with *Populus deltoides* Marshall, *Salix exigua* Nutt., *S. humilis*, and *S. nigra* Marsh.

This beetle species has also been reported from *Helianthus tuberosus* L. (Asteraceae); *Rhododendron* (Ericaceae); *Juglans nigra* L. (Juglandaceae); *Gossypium* and *Malva* (Malvaceae) (Downie & Arnett, 1996; Riley & Enns, 1979; Sundman, 1965; White, 1968; Wilcox, 1979). However, these non-salicaceous occurrences were likely incidental.

***Cryptocephalus luteolus* Newman.** This species has been reported from willow [*Salix*] (Salicaceae) (Blatchley, 1913, 1924a; White, 1968).

***Cryptocephalus maccus* White.** White (1968) recorded a specimen collected from flowers of *Prosopis juliflora* (Sw.) DC. [*P. glandulosa* J. Torr.] (Fabaceae).

***Cryptocephalus marginicollis* Suffrian.** This West Indian species, recorded from Florida but lacking adequate documentation of its occurrence there, has been reported in association with *Yucca* (Agavaceae), *Manihot esculenta* Crantz (Euphorbiaceae), *Eucalyptus* (Myrtaceae), *Psidium guajava* L. (Myrtaceae), and *Citrus sinensis* (L.) Osbeck (Rutaceae) (Bruner *et al.*, 1975; Ebeling, 1959; Erber, 1988; Jolivet, 1979a; Zayas, 1960).

***Cryptocephalus merus* Fall.** In previously unpublished investigations, we have seen a specimen collected in Arizona from *Rhus choriophylla* Woot. & Standl. (Anacardiaceae).

***Cryptocephalus mucoreus* LeConte.** This species has been collected abundantly on *Rhus glabra* L. (Anacardiaceae) (Popenoe, 1877; Riley & Enns, 1979). It has also been reported from *Quercus* (Fagaceae) (Clark, 2000; Downie & Arnett, 1996; Wilcox, 1979).

***Cryptocephalus mutabilis* Melsheimer.** This species has been recorded from birch [*Betula*], hazel [*Corylus*] (Betulaceae); *Viburnum* (Caprifoliaceae); *Kalmia* (Ericaceae); peanut [*Arachis hypogaea* L.], *Cercis canadensis* L. (Fabaceae); *Quercus* (Fagaceae); hickory [*Carya*] (Juglandaceae); *Pinus* (Pinaceae); *Ceanothus americanus* L. (Rhamnaceae); cherry [*Prunus*] and *Spiraea* (Rosaceae) (Arnett, 1985; Blatchley, 1910; Douglass, 1929; Downie & Arnett, 1996; Felt, 1907; Hamilton, 1895; Lee, 1949; MacAloney, 1950; Morris, 1914a, 1914b; Papp, 1984; Smith, 1910a; Sundman, 1965; Swan & Papp, 1972; White, 1968; Wilcox,

1979). Additionally, Webster (1881) included it in a list of chrysomelids observed on either *Salix discolor* Muhl. or *S. petiolaris* J. E. Sm. (Salicaceae).

***Cryptocephalus nanus* Fabricius.** This species has been collected from *Myrica cerifera* L. (Myricaceae) and *Salix* (Salicaceae) (Flowers *et al.*, 1994; Peck & Thomas, 1998). A single specimen has also been swept from *Rhus copallina* L. (Anacardiaceae) (Riley & Enns, 1979). In previously unpublished field work in both Arkansas and Missouri, we have collected *C. nanus* from *Amorpha fruticosa* L. (Fabaceae).

***Cryptocephalus nigrocinctus* Suffrian.** This species, sometimes cited as the synonym *C. tristiculus* Weise, has been reported from *Mangifera indica* L. (Anacardiaceae); *Carissa* (Apocynaceae); *Bidens pilosa* L. (Asteraceae); *Ochroma pyramidale* (Cav. ex Lam.) Urb. (Bombacaceae); *Cordia borinquensis* Urban (Boraginaceae); *Chrysobalanus icaco* L. (Chrysobalanaceae); *Conocarpus erectus* L., *Laguncularia racemosa* (L.) Gaertn., *Terminalia catappa* L. (Combretaceae); sedge [Cyperaceae]; *Manihot esculenta* Crantz, *Ricinus communis* L. (Euphorbiaceae); *Dalbergia ecastaphyllum* (L.) Taub., *Inga laurina* (Sw.) Willd., *I. fagifolia* (L.) Willd. [*I. ruiziana* G. Don], *I. vera* Willd. (Fabaceae); *Stigmaphyllon tomentosum* (Desf.) Ndz. [S. megacarpum (Vell. Conc.) Griseb.] (Malpighiaceae); *Gossypium barbadense* L. (Malvaceae); *Ficus stahlii* Warb. (Moraceae); *Eucalyptus*, *Psidium guajava* L. (Myrtaceae); *Saccharum officinarum* L. (Poaceae); *Coccoloba uvifera* (L.) L. (Polygonaceae); *Rhizophora mangle* L. (Rhizophoraceae); *Rosa*, *Rubus rosifolius* Sm. (Rosaceae); *Citrus paradisi* Macfad., *C. sinensis* (L.) Osbeck (Rutaceae); *Salix chilensis* Molina (Salicaceae); *Capsicum frutescens* L. [*C. annuum* L.] and *Nicotiana tabacum* L. (Solanaceae) (Martorell, 1976; Thomas *et al.*, 2001; Wolcott, 1936, 1951).

***Cryptocephalus notatus* Fabricius.** This species has been recorded from *Rhus copallina* L., *R. glabra* L. (Anacardiaceae); *Vernonia interior* Small [V. baldwinii ssp. interior (Small) W. Z. Faust] (Asteraceae); *Betula populifolia* Marsh. (Betulaceae); brake fern [*Pteridium aquilinum* (L.) Kuhn] (Dennstaedtiaceae); *Vaccinium* (Ericaceae); alfalfa [*Medicago sativa* L.], sweetclover [*Melilotus*], huajillo [*Pithecellobium pallens* (Benth.) Standl.] (Fabaceae); post oak [*Quercus stellata* Wangenh.], live oak [*Quercus*] (Fagaceae); *Ribes sativum* (Reichb.) Syme [R. rubrum L.] (Grossulariaceae); buckeye [*Aesculus*] (Hippocastanaceae); sassafras [*Sassafras albidum* (Nutt.) Nees] (Lauraceae); *Syringa* (Oleaceae); white pine [*Pinus strobus* L.] (Pinaceae); *Ceanothus americanus* L. (Rhamnaceae); *Fragaria*, *Malus x domestica* Borkh. [*M. sylvestris* P. Mill.], *Pyrus malus* L. [*M. sylvestris*], *Prunus angustifolia* Marsh., *P. persica* (L.) Batsch, wild cherry [*Prunus*], *Pyrus communis* L., *Rubus* (Rosaceae); *Salix* (Salicaceae); elm [*Ulmus*] (Ulmaceae); and *Vitis* (Vitaceae) (Andrews, 1923; Banks, 1912; Beutenmüller, 1890a; Blatchley, 1910, 1924a; Brown *et al.*, 1988; Burke *et al.*, 1974; Clark, 2000; Cockerell, 1902; Downie & Arnett, 1996; Dozier, 1918, 1920; Felt, 1907, 1930; Furth, 1985; Hamilton, 1895; Hatch, 1971; Johnson, 1916, 1927; Kirk & Balsbaugh, 1975; Morris, 1914a, 1914b; Packard, 1890; Riley & Enns, 1979; Schwitzgebel & Wilbur, 1942; Smith, 1900, 1910a; Sundman, 1965; White, 1968; Wilcox, 1979).

Beyond these records, Harrington's (1883) report of "*C. maculatus*, Say" from pine [*Pinus*] was likely based on *C. notatus*. Howden & Vogt (1951) reported *C. notatus* from the bark of *Pinus virginiana* P. Mill. (Pinaceae), but they rightly considered this to be a chance occurrence.

In previously unpublished investigations, we have found an adult of *C. notatus* on *Helianthus strumosus* L. (Asteraceae) in Missouri. The captive beetle fed sparingly on a leaf of this plant. Also in Missouri, we have found adults on *Cotinus obovatus* Raf., *Rhus aromatica* Ait., *R. glabra* (Anacardiaceae); and *Diospyros virginiana* L. (Ebenaceae). In Texas, we have collected *C. notatus* from *Quercus fusiformis* Small, *Q. incana* Bartr., and *Q. stellata* (Fagaceae). Additionally, we have identified adults that were collected by Thomas O. Robbins from *Ceanothus herbaceus* Raf. (Rhamnaceae) in central Texas. Also, we have seen specimens labeled from Mississippi in association with red oak [*Quercus rubra* L.] (Fagaceae) and from Colorado in association with wild rose [*Rosa*] (Rosaceae).

***Cryptocephalus obsoletus* Germar.** This species has been reported from *Solidago* (Asteraceae); collard [*Brassica oleracea* L.] (Brassicaceae); *Hypericum stans* (Michx. ex Willd.) P. Adams & Robson [*H. crux-andreae* (L.) Crantz], *H. fasciculatum* Lam. (Clusiaceae); *Cucumis sativus* L. (Cucurbitaceae); *Phaseolus lunatus* L. (Fabaceae); *Abelmoschus esculentus* (L.) Moench (Malvaceae); and *Lycopersicon esculentum* Mill. (Solanaceae) (Blatchley, 1924a; Clark, 2000; Downie & Arnett, 1996; Erber, 1988; Newell & Smith, 1905; White, 1968; Wilcox, 1979). It has also been collected by sweeping grass [Poaceae] (Dozier, 1918), but sweeping records, without supporting evidence, should not be interpreted as host associations.

***Cryptocephalus ochraceus* Fall.** This species has been reported from *Myrica cerifera* L. (Myricaceae) (Flowers *et al.*, 1994; Peck & Thomas, 1998).

***Cryptocephalus pallidicinctus* Fall.** This species has been associated with *Psoralea schottii* (Torr.) Barneby (Fabaceae) and *Larrea divaricata* Cav. (Zygophyllaceae) (Carr, 1988; Gilbert, 1979). A specimen has also been collected from *Eriogonum* (Polygonaceae) (Gilbert, 1979), but this occurrence may have been incidental.

***Cryptocephalus pinicola* Schaeffer.** This species has been reported from pine [*Pinus*] (Pinaceae) and *Ceanothus fendleri* A. Gray (Rhamnaceae) (Schaeffer, 1920; White, 1968). In previously unpublished investigations, we have seen *C. pinicola* labeled from Arizona in association with *Quercus utahensis* Rydb. (Fagaceae) and from New Mexico in association with *Cercocarpus* (Rosaceae). It is not known whether or not these are food plants.

***Cryptocephalus pseudomaccus* White.** This species has been reported from *Acacia greggii* A. Gray (Fabaceae) (White, 1968). In previously unpublished investigations, we have seen a specimen labeled from Arizona in association with *Mimosa* (Fabaceae).

***Cryptocephalus pubiventris* Schaeffer.** In previously unpublished investigations, we have seen Arizona specimens of *C. pubiventris*, one labeled in association with *Quercus arizonica* Sarg. (Fagaceae) and another labeled in association with *Ceanothus* (Rhamnaceae).

***Cryptocephalus pumilus* Haldeman.** This species has been recorded from *Baccharis halimifolia* L. and *B. neglecta* Britt. (Asteraceae) (Boldt & Robbins, 1987; Palmer & Bennett, 1988). Also, Palmer (1987) reported “*Cryptocephalus* nr. *pumilus*” collected from these same two plants. In previously unpublished field work in east-central Texas, we have collected adults of *C. pumilus* from plants that were likely hybrids of *B. halimifolia* and *B. salicina* J. Torr. & A. Gray. Beyond *Baccharis*, this beetle species has also been found on willow [*Salix*] (Salicaceae) (Blatchley, 1924a; Schwarz, 1878).

***Cryptocephalus quadruplex* Newman.** This species has been recorded from *Rhus aromatica* Ait., *R. glabra* L. (Anacardiaceae); *Cornus* (Cornaceae); *Vaccinium* (Ericaceae); *Quercus palustris* Muenchh., red oak [*Q. rubra* L.] (Fagaceae); *Comptonia peregrina* (L.) Coult. (Myricaceae); pine [*Pinus*] (Pinaceae); sweet corn [*Zea mays* L.] (Poaceae); *Rumex* (Polygonaceae); blackberry [*Rubus*] (Rosaceae); *Salix bebbiana* Sarg. (Salicaceae); and elm [*Ulmus*] (Ulmaceae) (Andrews, 1923; Dearborn & Donahue, 1993; Douglass, 1929; Everly, 1938; Felt, 1907; Furth, 1985; Hamilton, 1895; Johnson, 1915; LeSage, 1986a; Popenoe, 1877; Riley & Enns, 1979; Smith, 1900; Sundman, 1965; Webster, 1893a; Whelan, 1936; White, 1968; Wilcox, 1979). Beyond these natural associations, LeSage (1986a) reared larvae on a mixture containing dead leaves of *Alnus* (Betulaceae), *Vaccinium* (Ericaceae), *Rubus* (Rosaceae), and *Salix* (Salicaceae).

In previously unpublished field work, we have collected adults of this beetle species from *Rhus aromatica* (Anacardiaceae); *Aster* (Asteraceae); *Corylus americana* Walt. (Betulaceae); *Diospyros virginiana* L. (Ebenaceae); *Quercus buckleyi* Nixon & Dorr, *Q. fusiformis* Small, *Q. muhlenbergii* Engelm. (Fagaceae); *Juglans nigra* L. (Juglandaceae); *Rubus* (Rosaceae); and *Ulmus americana* L. (Ulmaceae).

***Cryptocephalus quercus* Schaeffer.** This species is reported to live on oak [*Quercus*] (Fagaceae) (Schaeffer, 1906).

***Cryptocephalus sanguinicollis* Suffrian.** This species has been reported from *Artemisia*, *Baccharis pilularis* DC. (Asteraceae); *Arctostaphylos patula* E. L. Greene (Ericaceae); wild licorice [*Glycyrrhiza lepidota* Nutt. ex Pursh] (Fabaceae); *Phacelia leucophylla* Torr. (Hydrophyllaceae); strawberry [*Fragaria*], *Prunus*, *Purshia tridentata* (Pursh) DC., rose [*Rosa*], blackberry [*Rubus*] (Rosaceae); and *Salix* (Salicaceae) (Beller & Hatch, 1932; Carr, 1988; Essig, 1958; Furniss, 1972; Hatch, 1971; Horning & Barr, 1970; Papp, 1984; Russell, 1968; Swan & Papp, 1972; Tilden, 1951; Valenti *et al.*, 1997; White, 1968).

In previously unpublished investigations, we have found *C. sanguinicollis* to be common on *Adenostoma* (Rosaceae) and *Eriogonum* (Polygonaceae) in California. We have also associated California populations with *Encelia* (Asteraceae), *Arctostaphylos* (Ericaceae), *Pinus monophylla* J. Torr. & Frem. (Pinaceae), *Ceanothus* (Rhamnaceae), and *Salix* (Salicaceae). Additionally, we have seen material labeled from Baja California, Mexico in association with *Dudleya cultrata* Rose (Crassulaceae).

***Cryptocephalus schreibersii* Suffrian.** Hosts are species of *Pinus* (Pinaceae), including *P. rigida* P. Mill. (Blatchley, 1924a; Downie & Arnett, 1996; Felt, 1907, 1930; Packard, 1890; Felt, 1907; Schwarz, 1890; Smith, 1900, 1910a; Ulke, 1903; White, 1968; Wilcox, 1979). Additionally, *C. schreibersii* has been reported from *Juniperus virginiana* L. (Cupressaceae) and *Chamaedaphne calyculata* (L.) Moench (Ericaceae) (Balsbaugh & Hays, 1972; Schwarz, 1876; Wilcox, 1979), but these are probably not normal hosts.

***Cryptocephalus simulans* Schaeffer.** The subspecies *C. s. conjungens* Schaeffer has been reported from *Salvia vinacea* Woot. & Standl. (Lamiaceae) (White, 1968). Records maintained by the USDA-ARS Grassland, Soil and Water Research Laboratory state that adults of the subspecies *C. s. simulans* have been swept from foliage of *Baccharis pteronioides* DC. (Asteraceae) in Arizona, and that adults of a Texas species near *C. simulans* have been found feeding on foliage of *Baccharis neglecta* Britt. and have been swept from foliage of *Baccharis salicifolia* (Ruíz & Pav.) Pers. and *Gymnosperma glutinosum* (Spreng.) Less. (Asteraceae) (Thomas O. Robbins, pers. comm.).

***Cryptocephalus snowi* Schaeffer.** In previously unpublished observations, we have seen a large series collected from Arizona in association with *Salix* (Salicaceae). We have also seen Arizona specimens labeled from flowers of *Helianthus annuus* L. (Asteraceae) and from *Prosopis juliflora* (Sw.) DC. [*P. glandulosa* J.

Torr.] (Fabaceae).

***Cryptocephalus spurcus* LeConte.** The subspecies *C. s. spurcus* has been found on *Baccharis pteronioides* DC., *B. salicifolia* (Ruíz & Pav.) Pers., and *Isocoma* (Asteraceae) (Boldt & Robbins, 1990, 1994). *Cryptocephalus s. vandykei* White has been collected from *Chrysothamnus viscidiflorus* (Hook.) Nutt., *Ericameria nauseosa* (Pall. ex Pursh) Nesom & Baird, *Isocoma menziesii* var. *vernonioides* (Nutt.) G. L. Nesom, and *Tetradymia* (Asteraceae) (Hatch, 1971; White, 1937). Beyond this, *C. spurcus* (subspecies not stated) has been recorded from *Chrysopsis*, *Ericameria nauseosa*, *Isocoma veneta* var. *vernonioides* (Nutt.) Jepson [*I. menziesii* var. *vernonioides*], *I. veneta* (Kunth) Greene, *Pluchea borealis* A. Gray (Asteraceae); and *Larrea* (Zygophyllaceae) (Carr, 1988; Cockerell, 1902; Fall & Cockerell, 1907; Moore, 1937; White, 1968). Records maintained by the USDA-ARS Grassland, Soil and Water Research Laboratory state that an adult of *C. s. spurcus* has been collected from foliage of *Gutierrezia sarothrae* (Pursh) N. L. Britt. & Rusby (Asteraceae) (Thomas O. Robbins, pers. comm.).

Richerson & Boldt (1995) stated that “*Cryptocephalus* (near *spurcus* LeConte)” occurs, although rarely, on *Flourensia cernua* DC. (Asteraceae).

***Cryptocephalus striatulus* LeConte.** Webster (1881) included this species in a list of chrysomelids collected from either *Salix discolor* Muhl. or *S. petiolaris* J. E. Sm. (Salicaceae).

***Cryptocephalus texanus* Schaeffer.** This species has been reported from guajillo [*Acacia berlandieri* Benth.] and *Prosopis glandulosa* J. Torr. (Fabaceae) (Sundman, 1965; Ward *et al.*, 1977). In previously unpublished investigations, we confirm the association with *P. glandulosa*, having collected adults from this plant in southern Texas. We have also seen a specimen labeled in association with *Acacia farnesiana* (L.) Willd. [a Texan specimen, therefore probably *A. smallii* Isley].

***Cryptocephalus tinctus* LeConte.** Blatchley (1914) reported one specimen collected from *Pieris nitida* (Bartram ex Marshall) Benth. & Hook. f. (Ericaceae). Other workers have also reported *C. tinctus* from Ericaceae (genus not specified) (Balsbaugh & Hays, 1972; Wilcox, 1979). Beyond this, Smith (1910a) recorded material beaten from hickory [*Carya*] (Juglandaceae), and Rouse & Medvedev (1972) recorded material from peach [*Prunus persica* (L.) Batsch] (Rosaceae). Additionally, Blatchley (1924a) reported beetles hibernating in Spanish moss [*Tillandsia usneoides* (L.) L.] (Bromeliaceae), but he did not suggest that this was a food plant.

***Cryptocephalus triundulatus* White.** White (1968) recorded a specimen labeled from catsclaw [*Acacia* or *Schrunkia*] (Fabaceae). In previously unpublished investigations, we have seen a specimen labeled from Texas in association with *Mimosa* (Fabaceae) and another specimen labeled from Baja California in association with *Eriogonum* (Polygonaceae).

***Cryptocephalus trivittatus* Olivier.** This species has been reported from *Corylus* (Betulaceae) (Blatchley, 1910; Clark, 2000).

***Cryptocephalus trizonatus* Suffrian.** This species, including populations in Latin America, has been recorded from *Schinus molle* L., *Spondias mombin* L. (Anacardiaceae); *Annona cherimola* Mill. (Annonaceae); *Gerbera jamesonii* Adlam, *Helianthus*, *Lactuca sativa* L. (Asteraceae); *Ehretia anacua* (Terán & Berland.) I. M. Johnst., *E. elliptica* A. DC. (Boraginaceae); *Croton gossypifolius* Vahl. (Euphorbiaceae); *Cassia*, *Parkinsonia aculeata* L. (Fabaceae); *Byrsonima crassifolia* (L.) Kunth in H. B. K. (Malpighiaceae); *Gossypium* (Malvaceae); *Ficus carica* L. (Moraceae); *Eugenia uniflora* L. (Myrtaceae); *Ligustrum japonicum* Thunb. (Oleaceae); pangola [*Digitaria eriantha* Steud.] (Poaceae); *Malus sylvestris* P. Mill., *Prunus salicina* Lindl., *Pyrus communis* L., *Rosa* (Rosaceae); *Coffea arabica* L. (Rubiaceae); and *Citrus limonia* Osbeck (Rutaceae) (Ballou, 1936; Domínguez & Carrillo, 1976; Maes & Staines, 1991; Sundman, 1965; Townsend, 1902; White, 1968).

In previously unpublished investigations, we have collected adults of *C. trizonatus* from *Leucaena pulverulenta* (Schlecht.) Benth. (Fabaceae) in southern Texas. We have also examined specimens labeled as having been beaten from *Acacia* (Fabaceae) in Texas.

***Cryptocephalus umbonatus* Schaeffer.** Schaeffer (1906) reported this species beaten frequently from oak [*Quercus*] (Fagaceae). Knowlton (1954b) reported “*Cryptocephalus* sp. prob. *umbonatus* Schffr.” from *Chrysothamnus viscidiflorus* (Hook.) Nutt. (Asteraceae).

***Cryptocephalus vapidus* White.** Records maintained by the USDA-ARS Grassland, Soil and Water Research Laboratory state that an adult of “*Cryptocephalus* sp. near *vapidus* R. E. White” has been collected in Cochise County, Arizona by sweeping *Gutierrezia sarothrae* (Pursh) N. L. Britt. & Rusby (Asteraceae) (Thomas O. Robbins, pers. comm.).

***Cryptocephalus venustus* Fabricius.** This species has been recorded from *Ambrosia trifida* L., *Artemisia dracunculoides* Pursh [*Artemisia dracunculus* L.], meadow-daisy blossoms [*Bellis perennis* L. or *Leucanthemum vulgare* Lam.], *Erigeron*, *Symphotrichum puniceum* (L.) A. & D. Löve, ironweed [*Vernonia*] (Asteraceae); *Betula pumila* L. (Betulaceae); wild sweet potato [*Ipomoea pandurata* (L.) G. F. W. Mey.] (Convolvulaceae); cucumber [*Cucumis sativus* L.], pumpkin [*Cucurbita*] (Cucurbitaceae); *Vaccinium pen-*

sylvanicum Lam. [*V. angustifolium* Benth.], *V. canadense* Kalm [*V. myrtilloides* Michx.] (Ericaceae); *Sapium sebiferum* (L.) Roxb. (Euphorbiaceae); *Lespedeza* (Fabaceae); *Pycnanthemum* (Lamiaceae); fir [*Abies*], pine [*Pinus*] (Pinaceae); grass [Poaceae]; *Ceanothus americanus* L. (Rhamnaceae); blackberry [*Rubus*], meadow-sweet [*Spiraea*] (Rosaceae); tomato [*Lycopersicon esculentum* Mill.] and potato [*Solanum tuberosum* L.] (Solanaceae) (Andrews, 1923; Banks, 1912; Beutenmüller, 1890a; Blatchley, 1910; Chittenden, 1892; Dearborn & Donahue, 1993; Haldeman, 1849; Jaques, 1951; Johnson, 1916; Kirk, 1970; Morris, 1914a, 1914b; Papp, 1984; Phipps, 1930; Randall, 1838b; Riley & Enns, 1979; Riley & Howard, 1888a; Smith, 1900, 1910a; Swan & Papp, 1972; Webster, 1893a; Whelan, 1936; White, 1968; Wickham, 1902; Wilcox, 1979).

Additionally, Webster (1881) included *C. venustus* in a list of chrysomelids observed on either *Salix discolor* Muhl. or *S. petiolaris* J. E. Sm. (Salicaceae). Beyond these associations, LeSage (1986a) reared larvae on a mixture containing dead leaves of *Alnus* (Betulaceae), *Vaccinium* (Ericaceae), *Rubus* (Rosaceae), and *Salix* (Salicaceae).

In previously unpublished investigations in Missouri, we have found an adult of *C. venustus* on a feeding-damaged flower of *Rudbeckia missouriensis* Englem. ex C. L. Boynt. & Beadle (Asteraceae). The captive beetle fed copiously on a flower of this plant. Also in Missouri, we have found an adult on *Rudbeckia hirta* L. In tallgrass prairie in western Arkansas, we have found *C. venustus* mating and feeding on flower petals of *Rhexia mariana* L. (Melastomataceae). In Wisconsin, Andrew H. Williams (pers. comm.) has found this beetle species feeding on the young leaf tips of *Lysimachia quadriflora* Sims (Primulaceae).

***Cyclotrypema furcata* (Olivier).** This species is associated with *Calypocarpus vialis* Less. (Asteraceae) (Riley *et al.*, 2002). It has also been reported from Irish potato [*Solanum tuberosum* L.] (Solanaceae); *Lippia* and *Phyla lanceolata* (Michx.) Greene (Verbenaceae) (Blake, 1966a; Riley *et al.*, 2002; Schaeffer, 1906). However, these occurrences were likely incidental.

***Deloyala guttata* (Olivier).** This species, including populations in Latin America, is associated with Convolvulaceae, having been reported from *Calystegia sepium* (L.) R. Br., *C. spithamea* (L.) Pursh, *Convolvulus arvensis* L., *Ipomoea ampullacea* Fern., *I. batatas* (L.) Lam., *I. hederacea* Jacq., *I. leptophylla* J. Torr., *I. mutabilis* Ker Gawl., *I. pandurata* (L.) G. F. W. Mey., *I. purpurea* (L.) Roth, and *Merremia aegyptia* (L.) Urb. (Andrews, 1923; Ballou, 1936; Balsbaugh & Hays, 1972; Balsbaugh *et al.*, 1981; Barrows, 1979; Beutenmüller, 1890a; Blatchley, 1910, 1924a; Borowiec, 1999; Brisley, 1925; Bruner *et al.*, 1975; Buzzi, 1994; Carr, 1920; Chagnon, 1939; Chagnon & Robert, 1962; Chittenden, 1912b; Clark, 2000; Cotton, 1918; Crosby & Leonard, 1918; Défago *et al.*, 2001; Dillon & Dillon, 1961; Douglass, 1929; Downie & Arnett, 1996; Dozier, 1918, 1920; Dussourd & Denno, 1991; Gibson, 1928; Hamilton, 1895; Harris & Piper, 1970; Hatch, 1971; Jaques, 1951; Johnson, 1927; Jolivet & Hawkeswood, 1995; Jones, 1915; Julien & Griffiths, 1998; King & Saunders, 1984; Kirk, 1969, 1970; Maes & Staines, 1991; Martorell, 1976; Metcalf & Metcalf, 1993; Mo-yuddin, 1969a, 1969b; Moldenke, 1971; Morris, 1914a, 1914b; Noguera, 1988; Olmstead & Denno, 1992, 1993; Packard, 1877; Papp, 1984; Pirone, 1970; Proctor, 1938, 1946; Rausher, 1983, 1984; Riley, 1870c; Riley & Enns, 1979; Sanderson, 1899; Smith, 1900, 1910a, 1910b, 1938, 1950; Sorensen & Baker, 1983; Swan & Papp, 1972; Trippel, 1934; Virkki & Santiago-Blay, 1998; Virkki, Santiago-Blay, & Riley, 1992; Walsh & Riley, 1869e; Westcott, 1946; Wilcox, 1954, 1979; Windsor *et al.*, 1992; Wolcott, 1936, 1951). Additionally, this beetle species has been reported from *Ipomoea hirsutula* Jacq. f. in Arizona (Brisley, 1925), but this was likely based on specimens of *D. lecontei* (Crotch) rather than true *D. guttata*. In previously unpublished investigations, we have identified adults of *D. guttata* that were collected by Thomas O. Robbins from *Ipomoea cordatotriloba* Dennst. in central Texas.

This beetle species has also been reported from *Asclepias incarnata* L., *A. syriaca* L. (Asclepiadaceae); *Ambrosia trifida* L., *Bidens*, *Cirsium arvense* (L.) Scop., *Eupatorium*, goldenrod [*Solidago*], *Verbesina encelioides* (Cav.) Benth. & Hook. f. ex A. Gray (Asteraceae); wild mustard [*Brassica* or a similar genus], radish [*Raphanus sativus* L.] (Brassicaceae); *Cucumis* (Cucurbitaceae); honey locust [*Gleditsia triacanthos* L.], soybean [*Glycine max* (L.) Merr.], *Phaseolus vulgaris* L., yellow locust [*Robinia pseudoacacia* L.], *Senna polyphylla* (Jacq.) H. S. Irwin & Barneby (Fabaceae); *Quercus palustris* Muenchh., *Q. rubra* L. (Fagaceae); buckeye [*Aesculus*] (Hippocastanaceae); avocado [*Persea americana* Mill.] (Lauraceae); cotton [*Gossypium*] (Malvaceae); fig [*Ficus*] (Moraceae); Bermuda grass [*Cynodon dactylon* (L.) Pers.], *Oryza sativa* L., sugarcane [*Saccharum officinarum* L.], Johnson grass [*Sorghum halepense* (L.) Pers.], *Zea mays* L. (Poaceae); meadowrue [*Thalictrum*] (Ranunculaceae); *Ceanothus* (Rhamnaceae); thorn [likely *Crataegus* or a similar genus] (Rosaceae); *Coffea* (Rubiaceae); *Citrus* (Rutaceae); *Capsicum*, tomato [*Lycopersicon esculentum* Mill.], potato [*Solanum tuberosum* L.] (Solanaceae); and *Vitis* (Vitaceae) (Ballou, 1936; Bickenstaff & Huggans, 1962; Blatchley, 1910, 1924a; Borowiec, 2002; Bray & Triplehorn, 1953; Crosby & Leonard, 1918; Dailey *et al.*, 1978; Deitz *et al.*, 1976; Domínguez & Carrillo, 1976; Douglass, 1929; Dozier, 1918, 1920; Ebeling, 1959; Felt, 1907; Harris & Piper, 1970; Hopkins, 1893; Kirk, 1969, 1970; Kovalev, 1971; Maes & Staines, 1991; Martorell, 1976; McGiffin & Neunzig, 1985; Morris, 1914a, 1914b; Nettles, 1969; Passoa,

1983; Patch, 1913; Proctor, 1938, 1946; Story *et al.*, 1985; Townsend, 1902; Trippel, 1934; Weiss & Dickerson, 1921; Wolcott, 1936, 1951; Wray, 1965). However, in spite of the fact that some reports mentioned feeding, these occurrences were certainly incidental. Possibly, some of them resulted from the tendency of Convolvulaceae to twine around these and many other plants. Even so, adults have nibbled experimentally on *Dioscorea discolor* Kunth, *D. sativa* L. [*D. esculenta* (Lour.) Burkill] (Dioscoreaceae); *Datura stramonium* L. and *Nicotiana tabacum* L. (Solanaceae) (Mohyuddin, 1969b).

Blatchley (1910) reported that beetles hibernate beneath mullein leaves [*Verbascum*] (Scrophulariaceae), but he did not infer that this was a food plant. Kirk (1970) recorded material swept from alfalfa [*Medicago sativa* L.] (Fabaceae), but sweeping records should not necessarily be interpreted as host associations. Wray & Brimley (1943) reported *D. guttata* from *Sarracenia flava* L. (Sarraceniaceae), but this was probably an instance in which the insects were prey rather than herbivores.

Hutson's (1957a) report of "*Deloyala vittata*" may have been based on *D. guttata*. If so, the recorded association with tomato [*Lycopersicon esculentum*] (Solanaceae) was probably incidental.

***Deloyala lecontei* (Crotch).** This species is associated with Convolvulaceae. Brisley (1925) reported it from sweet potato [*Ipomoea batatas* (L.) Lam.] and *Ipomoea hirsutula* Jacq. f. In previously unpublished investigations, we have collected adults in western Texas from *Convolvulus equitans* Benth., and in New Mexico from *Ipomoea hederacea* Jacq.

***Demotina modesta* Baly.** Isono (1988) reported that this species occurs commonly in Japan on *Quercus serrata* Thunb. (Fagaceae). He also reported a few beetles from *Q. glauca* Thunb., as well as a single specimen from *Eurya japonica* Thunb. (Theaceae). In the United States, *D. modesta* has been collected from *Quercus nigra* L. (Riley *et al.*, 2001, 2002).

***Derocrepis aesculi* (Dury).** This species is associated with *Aesculus glabra* Willd. (Hippocastanaceae) (Anonymous, 1985; Baker, 1972; Clark, 2000; Downie & Arnett, 1996; Dury, 1906; Felt, 1907; Riley & Enns, 1979; Wilcox, 1954, 1979). Additionally, it has been reported from *Robinia pseudoacacia* L. (Fabaceae) (Felt, 1907; Stirrett, 1924).

***Derocrepis carinata* (Linell).** This species has been associated with *Robinia pseudoacacia* L. (Fabaceae) (Hargrove, 1986; Wilcox, 1979).

***Derocrepis erythropus* (Melsheimer).** This species, sometimes erroneously cited as the Old World species *D. rufipes* (Linnaeus), has been recorded in association with *Corylus* (Betulaceae); *Tillandsia usneoides* (L.) L. (Bromeliaceae); *Cornus florida* L. (Cornaceae); *Cercis canadensis* L., honey locust [*Gleditsia triacanthos* L.], pea [likely *Pisum sativum* L.], *Robinia pseudoacacia* L. (Fabaceae); *Fagus* (Fagaceae); *Pyrus malus* L. [*Malus sylvestris* P. Mill.], *Prunus domestica* L., *P. persica* (L.) Batsch, *P. serotina* Ehrh., garden cherry [*Prunus*], *Pyrus communis* L., *Rosa*, *Rubus villosus* Thunb. [*Rubus corchorifolius* L. f.] (Rosaceae); *Celtis*, Chinese elm [*Ulmus parvifolia* Jacq.] (Ulmaceae); and *Vitis* (Vitaceae) (Abdullah & Qureshi, 1969; Anonymous, 1964a; Beutenmüller, 1890a; Blatchley, 1910; Burbutis & Evans, 1963b; Chittenden, 1892, 1895a; Clark, 2000; Dillon & Dillon, 1961; Downie & Arnett, 1996; Duckett, 1920; Dury, 1906; Felt, 1907, 1930; Gentner, 1926a; Hamilton, 1894b, 1895; Hargrove, 1986; Herrick, 1935; Hopkins, 1893; Jaques, 1951; Lee, 1949; Lintner, 1888; Quaintance & Siegler, 1922; Riley & Enns, 1979; Riley & Howard, 1889b, 1893; Rosenfeld, 1911; Rouse & Medvedev, 1972; Sanderson & Pairs, 1931; Slingerland & Crosby, 1915; Smith, 1900, 1910a; Stirrett, 1924; Tarpley & Pienkowski, 1964; Udine, 1963; Ulke, 1903; Wilcox, 1954, 1979). Of these plants, *Robinia pseudoacacia* is a usual host, and actual feeding has also been reported for most of the rosaceous species.

***Derospidea brevicollis* (LeConte).** This species is associated with Rutaceae, having been reported from *Citrus aurantium* L., *C. sinensis* (L.) Osbeck, *Zanthoxylum americanum* P. Mill., and *Z. clava-herculis* L. (Abdullah & Qureshi, 1968; Balsbaugh & Hays, 1972; Beutenmüller, 1890a; Blake, 1931b; Blatchley, 1910, 1924a; Böving, 1929; Burke *et al.*, 1974; Clark, 2000; Douglass, 1929; Downie & Arnett, 1996; Dozier, 1918, 1920; Howard, 1902; Jolivet, 1979a; Kirk & Balsbaugh, 1975; Löding, 1945; Peck & Thomas, 1998; Quayle, 1938; Riley & Enns, 1979; Watson, 1918; Watson & Berger, 1937; Wilcox, 1954, 1965, 1979). Records maintained by the USDA-ARS Grassland, Soil and Water Research Laboratory state that adults of *D. brevicollis* have been found in Texas feeding on leaves of *Zanthoxylum hirsutum* Buckl. (Thomas O. Robbins, pers. comm.). Although beetles do occasionally feed on *Citrus*, the preferred host genus is *Zanthoxylum*.

This beetle species has also been reported from sumac [*Rhus*] (Anacardiaceae), *Opuntia* (Cactaceae), *Hamamelis virginiana* L. (Hamamelidaceae), and willow [*Salix*] (Salicaceae) (Andrews, 1923; Douglass, 1929; Lago *et al.*, 2002; Raizenne, 1975). However, these occurrences were probably incidental.

Blatchley's (1924a) report of *Trirhabda tomentosa* (Linnaeus) associated with pecan [*Carya illinoinensis* (Wang.) K. Koch] (Juglandaceae) and with citrus [*Citrus*] and *Zanthoxylum clava-herculis* (Rutaceae) was probably based on specimens of *D. brevicollis*. However, any occurrence on *Carya* would have been incidental.

***Derospidea ornata* (Schaeffer).** Kirk (1970) reported this species from *Zanthoxylum* (Rutaceae). However, his record was from South Carolina, far outside the generally recognized range of *D. ornata*, and it was certainly based on either mislabeling or misidentification.

Nevertheless, in previously unpublished field work in south Texas, we have collected *D. ornata* commonly and repeatedly from *Zanthoxylum fagara* (L.) Sarg. Larvae presumably belonging to this species were found in association with adults on the foliage of this plant.

***Diabrotica balteata* LeConte.** This species, including populations in Latin America, has been reported from *Amaranthus dubius* Mart., *A. retroflexus* L., *A. spinosus* L. (Amaranthaceae); mango [*Mangifera indica* L.] (Anacardiaceae); *Canarium odoratum* (Lam.) Baill. ex King (Annonaceae); *Daucus carota* L., *Petroselinum* (Apiaceae); *Beaumontia grandiflora* Wall. (Apocynaceae); *Ageratum conyzoides* L., *Ambrosia*, *Baccharis emoryi* A. Gray, *B. halimifolia* L., chrysanthemum [*Chrysanthemum* or a similar genus], *Carduus spinosissimus* Walt. [*Cirsium horridulum* Michx.], *Helianthus*, *Lactuca sativa* L., *Matricaria*, *Parthenium hysterophorus* L., *Verbesina encelioides* (Cav.) Benth. & Hook. f. ex A. Gray, *Xanthium strumarium* L. (Asteraceae); *Begonia* (Begoniaceae); *Brassica oleracea* L., *B. rapa* L., *Lepidium*, *Sinapis* (Brassicaceae); *Humulus* (Cannabaceae); *Dianthus*, *Stellaria* (Caryophyllaceae); *Beta vulgaris* L., *Salsola kali* L., *Spinacia oleracea* L. (Chenopodiaceae); *Ipomoea batatas* (L.) Lam. (Convolvulaceae); *Citrullus colocynthis* (L.) Schrad., *C. lanatus* (Thunb.) Matsum. & Nakai, *Cucumis melo* L., *C. sativus* L., *Cucurbita argyrosperma* Huber, *C. foetidissima* Kunth in H. B. K., *C. martinicensis* L. Bailey, *C. maxima* Duchn. ex Lam., *C. moschata* (Duchn. ex Lam.) Duchn. ex Poir., *C. pepo* L., *Ibervillea lindheimeri* (A. Gray) E. L. Greene, *Luffa cylindrica* (L.) Roemer [*L. aegyptiaca* Mill.], *Momordica charantia* L., *Sechium edule* (Jacq.) Sw. (Cucurbitaceae); *Rhododendron* (Ericaceae); *Manihot*, *Ricinus communis* L. (Euphorbiaceae); *Arachis hypogaea* L., *Cajanus indicus* Spreng. [*C. cajan* (L.) Millsp.], *Crotalaria*, *Desmodium tortuosum* (Sw.) DC., *Glycine max* (L.) Merr., *Dolichos atropurpureus* L. [*Lablab purpureus* (L.) Sweet], *Medicago sativa* L., sweetclover [*Melilotus*], *Mimosa*, *Parkinsonia aculeata* L., *Phaseolus lunatus* L., *P. vulgaris* L., *Pisum sativum* L., mesquite [*Prosopis*], *Sesbania aculeata* (Willd.) Pers. [*S. bispinosa* (Jacq.) Spreng. ex Steud.], white clover [*Trifolium repens* L.], *Vicia faba* L., *Vigna unguiculata* Clav. (Fabaceae); gladiolus [*Gladiolus*] (Iridaceae); *Mentha* (Lamiaceae); avocado [*Persea americana* Mill.] (Lauraceae); *Allium*, *Asparagus officinalis* L., *Hyacinthus* (Liliaceae); *Abelmoschus esculentus* (L.) Moench, *Gossypium hirsutum* L., *Hibiscus rosa-sinensis* L. (Malvaceae); *Ficus*, mulberry [*Morus*] (Moraceae); *Musa x paradisiaca* L. (Musaceae); *Sesamum indicum* L. (Pedaliaceae); *Peperomia* (Piperaceae); *Avena*, *Echinochloa colonum* L., *Hordeum vulgare* L., *Leptochloa filiformis* (Pers.) P. Beauv., *Oryza sativa* L., *Panicum maximum* Jacq., *Rottboellia exaltata* (L.) L. f., *Saccharum officinarum* L., *Sorghum bicolor* (L.) Moench, *Triticum sativum* Lam. [*T. aestivum* L.], *Zea mays* L. (Poaceae); *Cyclamen* (Primulaceae); *Crataegus*, *Prunus*, *Pyrus*, *Rosa* (Rosaceae); lime [*Citrus aurantifolia* (Christm.) Swingle], *C. aurantium* L. (Rutaceae); *Capsicum annuum* L., *Datura stramonium* L., *Lycopersicon esculentum* Mill., *Nicotiana*, *Physalis pubescens* L., *Solanum douglasii* Dun., *S. elaeagnifolium* Cav., *S. melongena* L., *S. rostratum* Dunal, *S. tuberosum* L. (Solanaceae); *Urtica* (Urticaceae); and *Vitis* (Vitaceae) (Abdullah & Qureshi, 1968; Anonymous, 1958k, 1959c, 1959n, 1959w, 1960d, 1960t, 1960u, 1960v, 1961a, 1961b, 1961e, 1963c, 1965c, 1974, 1980; Arthur & Arant, 1956; Ballou, 1936; Baur *et al.*, 2000; Bechyné, 1997b; Beckham, 1953a; Bell *et al.*, 1972; Böving, 1927; Brimley, 1938; Brisley, 1925; Burke, 1963; Burns & Newsom, 1954; Cancienne, 1964b, 1964d; Cancienne & Newsom, 1961; Cardona *et al.*, 1982; Carr, 1988; Chiang Lok *et al.*, 1987; Chittenden, 1910; Cockerham, 1952; Crosby & Leonard, 1918; Cuthbert & Davis, 1970, 1971; Cuthbert & Deen, 1953; Cuthbert & Jones, 1972; Cuthbert & Reid, 1965; Davidson & Lyon, 1987; Davis, 1929, 1931; Denmark, 1955; Domínguez & Carrillo, 1976; Dozier, 1922; Drees & Rice, 1990; Ebeling, 1959; Eben, 1999; Eben & Barbercheck, 1996; Eben *et al.*, 1997a; Edelson, 1986; Elmore & Campbell, 1936; Essig, 1928; Ferguson *et al.*, 1983; Folsom, 1936b; Genung, 1953b, 1954; Genung & Questel, 1954a, 1954b; Genung *et al.*, 1954; Goeden, 1971a; Goeden & Ricker, 1968; González *et al.*, 1982; Harding & Newsom, 1963; Harries, 1975; Hayes, 1922; Hayslip *et al.*, 1953; Heyer, 1996; Heyer & Cruz, 1983, 1986, 1989; Heyer *et al.*, 1988a, 1988b, 1989, 1991, 1993; Hilgendorf & Goeden, 1983; Howe & George, 1966; Jackman, 1979a, 1979h; Jansen & Staples, 1971; Kelsheimer, 1954, 1956; King & Saunders, 1984; Kirk, 1969, 1970; Knowles, 1964; Krysan, 1986, 1999; Krysan & Branson, 1983; Layton *et al.*, 1987; Luginbill, 1918, 1940; MacGregor & Gutiérrez, 1983; Maes & Staines, 1991; Marsh, 1910; May, 1953b; McAlay & Denmark, 1965; McClay *et al.*, 1995; McKenzie, 1935; McQueen, 1966c; Metcalf, 1986b; Metcalf & Metcalf, 1993; Metcalf *et al.*, 1994; Melhus *et al.*, 1954; Miles, 1956; Moreno & Bibby, 1943; Neiswander, 1931; Nettles, 1957, 1959; Nettles *et al.*, 1958; Newsom, 1962, 1963b, 1963e, 1963f, 1963g, 1963i; Newsom & Burns, 1954a; Newsom & Cancienne, 1961b; Newsom & Chapin, 1961a, 1961b, 1961c, 1961d; Oliver, 1955f, 1956c, 1956d, 1958; Oliver *et al.*, 1955; Overman & MacCarter, 1972; Painter, 1955; Palmer, 1987; Palmer & Bennett, 1988; Passoa, 1983; Peck & Thomas, 1998; Pitre & Kantack, 1962; Radcliffe *et al.*, 1990; Reed *et al.*, 1984; Reid, 1952; Reid & Cuthbert, 1951; Rhodes *et al.*, 1980; Risch, 1976; Rodriguez-del-Bosque & Magallanes-Estala, 1994; Rose-

wall, 1922; Saba, 1970; Schalk, 1986; Schalk & Creighton, 1989; Schalk & Jones, 1982; Schalk & Peterson, 1990; Seibels, 1961a; Sell, 1918; Shands & Landis, 1964; Smith, 1966; Spink, 1959f, 1959g, 1959h, 1959i, 1959j, 1960a, 1960e, 1960f, 1960g, 1960h; Takizawa, 2003; Teng *et al.*, 1984; Townsend, 1902; Troxclair & Boethel, 1984; Turnipseed & Kogan, 1976; Tynes, 1964a, 1964c, 1964e, 1964g, 1964i; Tynes & Bagent, 1964; Ward *et al.*, 1977; Westcott, 1946; White, 1964; Wilcox, 1965, 1979; Wolfenbarger, 1954, 1955, 1958, 1960, 1963). Some of these associations involved flowers rather than foliage. Records maintained by the USDA-ARS Grassland, Soil and Water Research Laboratory state that adults of *D. balteata* have been found in Texas in association with foliage of *Baccharis neglecta* Britt. (Asteraceae) (Thomas O. Robbins, pers. comm.).

Sell (1918) indicated that beetles often spend the winter “down along the roots” of coffee bean [*Coffea arabica* L.] (Rubiaceae). However, he did not suggest that this was a food plant.

Under experimental conditions, *D. balteata* has fed on many of the plants listed above and also on *Petroselinum sativum* Hoffm. [*P. crispum* (Mill.) Nyman ex A. W. Hill] (Apiaceae); *Lepidium sativum* L., *Sinapis alba* L. (Brassicaceae); *Humulus lupulus* L. (Cannabaceae); *Dianthus caryophyllus* L., *Stellaria media* (L.) Vill. (Caryophyllaceae); *Crotalaria spectabilis* Roth, *Dolichos lablab* L. [*Lablab purpureus*] (Fabaceae); *Mentha x piperita* L. (Lamiaceae); *Allium porrum* L. (Liliaceae); *Avena sativa* L., *Echinochloa crus-galli* (L.) Beauv., *Panicum miliaceum* L. (Poaceae); *Cyclamen persicum* Mill. (Primulaceae); *Crataegus monogyna* Jacq., *Prunus domestica* L., *Pyrus malus* L. [*Malus sylvestris* P. Mill.] (Rosaceae); *Citrus sinensis* (L.) Osbeck (Rutaceae); *Nicotiana tabacum* L. (Solanaceae); *Urtica urens* L. (Urticaceae); and *Vitis vinifera* L. (Vitaceae) (Eben *et al.*, 1997a, 1997b; Metcalf & Rhodes, 1990; Saba, 1970; Teng *et al.*, 1984).

***Diabrotica barberi* Smith & Lawrence.** This species, including larvae, is best known for its often pestiferous association with *Zea mays* L. (Poaceae) (Boetel *et al.*, 1992; Borror *et al.*, 1989; Branson & Krysan, 1981; Clark, 2000; Davidson & Lyon, 1987; Dearborn & Donahue, 1993; Eben, 1999; Hesler, 1993; T. B. Johnson *et al.*, 1984; Kirk & Balsbaugh, 1975; Krafur, 1995; Krafur *et al.*, 1993; Krysan, 1993, 1999; Krysan & Branson, 1983; Krysan & Smith, 1987; Krysan *et al.*, 1983, 1989; Lance & Fisher, 1987; McDonald, 1989; Metcalf, 1986a; Metcalf & Metcalf, 1993; Naranjo & Sawyer, 1987; Norris & Kogan, 2000; Pedigo, 1996; Riley & Enns, 1979; Selman, 1994; Siegfried & Mullin, 1990; Wheeler, 1988; Wiesenborn & Krysan, 1980; Yaro & Krysan, 1986).

Larvae also feed on the roots of several other grasses [Poaceae] (Krysan, 1986; Krysan & Branson, 1983). Laboratory and field experiments have demonstrated that larvae of *D. barberi* are capable of developing on *Setaria lutescens* (Weigel) Hubb. [*S. glauca* (L.) Beauv.], *S. viridis* (L.) Beauv., and *Zea diploperennis* Iltis, Doeblay, & R. Guzmán (Poaceae) (T. B. Johnson *et al.*, 1984; Branson & Reyes Rueda, 1983). Adults have been reported feeding on *Avena sativa* L., *Setaria lutescens* [*S. glauca*], and *S. viridis* (Poaceae) (Boetel *et al.*, 1992; Krysan, 1993).

Beyond associations with Poaceae, adults have been recorded from *Cucurbita foetidissima* Kunth in H. B. K., *C. maxima* Duchn. ex Lam., *C. mixta* Pang., *C. moschata* (Duchn. ex Lam.) Duchn. ex Poir., *C. pepo* L., and *C. texana* A. Gray (Cucurbitaceae) (Andersen & Metcalf, 1987; Branson & Guss, 1983; Eben, 1999; Fisher *et al.*, 1984; Metcalf *et al.*, 1994; Riley & Enns, 1979; Siegfried & Mullin, 1990). Additionally *D. barberi* has been reported from *Amaranthus retroflexus* L. (Amaranthaceae); *Ambrosia*, *Cirsium*, *Erigeron*, *Helianthus annuus* L., *Iva xanthifolia* Nutt., *Solidago canadensis* L., *S. missouriensis* Nutt. (Asteraceae); *Chenopodium album* L. (Chenopodiaceae); *Glycine max* (L.) Merr. (Fabaceae); *Polygonum pensylvanicum* L., *P. perfoliatum* L. (Polygonaceae); and apple [*Malus sylvestris* P. Mill.] (Rosaceae) (Anonymous, 1975c; Boetel *et al.*, 1992; Eben, 1999; Hesler, 1993; Kirk & Balsbaugh, 1975; Jones & Coppedge, 2000; Naranjo & Sawyer, 1987; Siegfried & Mullin, 1990; Wheeler & Mengel, 1984; Wheeler & Stimmel, 1983). Some of these associations involved floral parts rather than foliage. Beyond green plants, *D. barberi* has also been reported to feed on fungal spores (Hesler, 1993).

Under experimental conditions, *D. barberi* has fed on some of the plants mentioned above (Lance & Fisher, 1987). In another experiment, beetles fed on a mixture of plants composed of *Amaranthus retroflexus* (Amaranthaceae); *Chenopodium album* (Chenopodiaceae); *Setaria lutescens* [*S. glauca*] and *S. viridis* (Poaceae) (Lance & Fisher, 1987).

Most recorded host associations for *Diabrotica longicornis* (Say) were actually based on *D. barberi*, the two species not being distinguished until rather recently. For such reports, see comments below regarding *D. longicornis*.

***Diabrotica cristata* (Harris).** This species is associated with Poaceae, having been reported from *Andropogon gerardii* Vitman, *Bromus inermis* Leyss., *Panicum virgatum* L., and *Setaria faberi* Herrm. (Eben, 1999; Krysan, 1993; Krysan & Smith, 1987; Metcalf, 1979, 1986b; Metcalf & Rhodes, 1990; Smith, 1966; Wheeler, 1988, 1994; Wiesenborn & Krysan, 1980; Yaro & Krysan, 1986). However, Yaro & Krysan (1986) demonstrated that *A. gerardii* is a larval host, while *B. inermis*, *P. virgatum*, and *Sorghastrum nutans* (L.)

Nash probably are not. The recorded associations with *B. inermis* and *P. virgatum* were based on Eben's (1999) misreading of Yaro & Krysan's (1986) article. Ahring & Howell (1968) reported capturing adults on yellow sticky traps set near *Bouteloua gracilis* (Willd. ex Kunth) Lag. ex Steud. Wheeler (1988) suspected that *Schizachyrium scoparium* (Michx.) Nash was a larval host, but he did not actually find larvae in association with this plant. Later (Wheeler, 1994), he doubted that this plant was a larval host.

This beetle species has also been recorded from *Zea mays* L. (Poaceae) (Adams, 1970; Anonymous, 1971b; Douglass, 1929; Forbes, 1905; Kirk & Balsbaugh, 1975; Krysan & Branson, 1983; Neiswander, 1931; Whelan, 1936; Wiesenborn & Krysan, 1980; Wilcox, 1979). Indeed, it has been reared on this plant under laboratory conditions (Branson & Krysan, 1981; Eben, 1999; Krysan & Smith, 1987; Wheeler, 1988; Yaro & Krysan, 1986). However, it is not generally considered to be a pest of this crop.

Adults have also been recorded from other plant families, the associations frequently involving flowers: *Rhus copallina* L., *R. glabra* L. (Anacardiaceae); *Cicuta maculata* L., *Daucus carota* L., *Oxypolis rigidior* (L.) Raf. (Apiaceae); *Asclepias verticillata* L. (Asclepiadaceae); *Achillea millefolium* L., *Ageratina aromatica* (L.) Spach, Canada thistle [*Cirsium arvense* (L.) Scop.], *Cirsium muticum* Michx., *C. vulgare* (Savi) Tenn., *Echinacea angustifolia* DC., *Eupatorium fistulosum* Barratt, *E. perfoliatum* L., *E. rugosum* Houtt., *Helianthus x laetiflorus* Pers., *H. maximiliani* Schrad., *H. tuberosus* L., *Heliopsis helianthoides* (L.) Sweet, *Lactuca scariola* L. [*L. serriola* L.], *Liatris graminifolia* Willd., *L. spicata* (L.) Willd., *Parthenium integrifolium* L., *Prenanthes racemosa* Michx., *Ratibida columnifera* (Nutt.) Woot. & Stan., *Rudbeckia hirta* L., *R. laciniata* L., *Silphium*, *Solidago juncea* Ait., *S. missouriensis* Nutt., *S. nemoralis* Ait., *Vernonia noveboracensis* (L.) Willd. (Asteraceae); radish [*Raphanus sativus* L.] (Brassicaceae); *Tradescantia ohiensis* Raf. (Commelinaceae); *Cucurbita foetidissima* Kunth in H. B. K. (Cucurbitaceae); *Amorpha canescens* Pursh, *A. fruticosa* L., *Dalea candida* Michx. ex Willd., *D. purpurea* Vent., *Melilotus alba* Medik., lima bean [*Phaseolus lunatus* L.], *Psoralea argophylla* Pursh (Fabaceae); *Monarda*, *Pycnanthemum tenuifolium* Schrad. (Lamiaceae); *Allium stellatum* Nutt. ex Ker Gawl., *Melanthium virginicum* L. (Liliaceae); *Phytolacca americana* L. (Phytolaccaceae); *Polygonum amphibium* L. (Polygonaceae); *Ceanothus americanus* L. (Rhamnaceae); *Rosa*, *Spiraea latifolia* (Ait.) Borkh. [*S. alba* var. *latifolia* (Ait.) Dippel] (Rosaceae); *Salix discolor* Muhl. and *S. petiolaris* J. E. Sm. (Salicaceae) (Balsbaugh & Hays, 1972; Chio *et al.*, 1978; Chittenden, 1902a; Douglass, 1929; Downie & Arnett, 1996; Eben, 1999; Forbes, 1905; Hendrickson, 1930b; Kirk & Balsbaugh, 1975; Krysan & Branson, 1983; Lago & Mann, 1987; Lovell, 1915; Metcalf *et al.*, 1994; Robertson, 1889b, 1890, 1894b, 1896c, 1929; Rouse & Medvedev, 1972; Webster, 1881, 1895b; Wheeler, 1988, 1994; Wiesenborn & Krysan, 1980; Wilcox, 1979). Under experimental conditions, *Cucurbita maxima* Duchn. ex Lam. (Cucurbitaceae) treated with cucurbitacin was readily fed upon by *D. cristata* (Metcalf *et al.*, 1994).

In previously unpublished field work in Missouri, we have found adults of *D. cristata* in flowers of *Coreopsis grandiflora* Hogg ex Sweet, *C. palmata* Nutt., *Echinacea pallida* (Nutt.) Nutt., *Ratibida pinnata* (Vent.) Barnh. (Asteraceae); *Schrankia uncinata* Willd., *Tephrosia virginiana* (L.) Pers. (Fabaceae); and *Delphinium carolinianum* Walt. (Ranunculaceae).

***Diabrotica lemniscata* LeConte.** This species has been collected from *Cucurbita foetidissima* Kunth in H. B. K. (Cucurbitaceae) (Krysan & Smith, 1987; Krysan *et al.*, 1989; Metcalf *et al.*, 1994). It has also been recorded from perennial grasses [Poaceae] (Branson & Krysan, 1981; Smith, 1966; Thomas & Werner, 1981).

***Diabrotica longicornis* (Say).** In recent treatments (or in earlier treatments clearly referring to true *D. longicornis*), this species has been associated with Cucurbitaceae, including *Cucurbita foetidissima* Kunth in H. B. K. (Krysan & Branson, 1983; Krysan & Smith, 1987; Krysan *et al.*, 1983, 1989; McDonald, 1989; Metcalf, 1979; Metcalf *et al.*, 1994; Rodriguez-del-Bosque & Magallanes-Estala, 1994). It has also been reported from *Zea mays* L. (Poaceae), and the larvae have been reared on roots of this plant (Branson & Krysan, 1981; Domínguez & Carrillo, 1976; Eben, 1999; Krysan *et al.*, 1983; Wilcox, 1979). However, *D. longicornis* is not a significant pest of this crop. The larvae probably feed naturally on perennial grasses [Poaceae] (Branson & Krysan, 1981). While surveying the insects associated with *Gutierrezia sarothrae* (Pursh) N. L. Britt. & Rusby (Asteraceae), Foster *et al.* (1981) found adults to be present, although rare. Domínguez & Carrillo (1976) recorded *D. longicornis* from alfalfa [*Medicago sativa* L.] (Fabaceae).

Most reports of *D. longicornis* were actually based on *D. barberi* Smith & Lawrence, these two species not being distinguished in earlier literature. Such reports frequently involved associations with *Zea mays* (Abdullah & Qureshi, 1968; Beirne, 1971; Beutenmüller, 1890a; Blatchley, 1910; Böving, 1927; Branson & Ortman, 1967c, 1971; Chiang, 1973; Chio *et al.*, 1978; Chittenden, 1912b; Cinereski & Chiang, 1968; Comstock, 1925; Comstock *et al.*, 1931; Crosby & Leonard, 1918; Douglass, 1929; Downie & Arnett, 1996; Everly, 1938; Forbes, 1883a, 1894, 1896, 1905, 1909; Forbes & Hart, 1900; French, 1882; Garman, 1891a, 1907; Gentry, 1954; Goble, 1972; Gossard, 1911; Harrington, 1883, 1894; Hatch & Ortenburger, 1930; Hill & Mayo, 1980; Hopkins & Rumsey, 1896; Houser & Balduf, 1925; Howe & George, 1966; Jacques & Peters, 1971; Jacques, 1951; Kellogg, 1892; Krysan *et al.*, 1983; Little, 1972; Ludwig & Hill, 1975; Lugger, 1899;

Luginbill, 1918; Nault *et al.*, 1978; Neiswander, 1931; Papp, 1984; Peterson, 1960; Poos & Elliott, 1936; Riley, 1879, 1880; Sanderson & Peairs, 1931; Shaw *et al.*, 1978; Smith, 1943, 1966; Swan & Papp, 1972; Tate & Bare, 1946; Thomas, 1881; Thomas & Werner, 1981; Webster, 1893b, 1895b, 1908, 1913b; Westcott, 1946; White, 1964, 1969, 1983; Wickham, 1897; Wilcox, 1954, 1965; Wressell, 1955).

Larvae of “*Diabrotica longicornis*” have also been associated with *Agropyron cristatum* (L.) P. Gaertn., *Elymus canadensis* L., *E. trachycaulis* (Link.) Gould *ex* Shinnars, *Eragrostis curvula* (Schr.) Nees, *Hordeum vulgare* L., *Oryza sativa* L., *Panicum miliaceum* L., *Setaria lutescens* (Weigel) Hubb. [*S. glauca* (L.) Beauv.], *S. viridis* (L.) Beauv., grain sorghum [*Sorghum bicolor* (L.) Moench], *Thinopyrum intermedium* (Host) Barkworth & D. R. Dewey, *Elymus elongatus* (Host) Runemark [*T. ponticum* (Podp.) Z.-W. Liu & R.-C. Wang], *Triticum aestivum* L., and *T. spelta* L. (Poaceae) (Anonymous, 1966m; Branson & Ortman, 1967c, 1971). However, these associations were almost certainly also based on *D. barberi*. It has been postulated that an original native host of “*D. longicornis*” was *Tripsacum* (Poaceae) (Smith, 1966), but this association may not have ever been substantiated.

Adults, and in a few instances larvae, of “*Diabrotica longicornis*” have also been reported from *Amaranthus hybridus* L., *A. retroflexus* L. (Amaranthaceae); *Daucus carota* L., *Sium cicutifolium* Schrank (Apiaceae); *Asclepias syriaca* L. (Asclepiadaceae); *Ambrosia artemisiifolia* L., *A. trifida* L., *Aster sagittifolius* Willd., *Boltonia asteroides* (L.) L’Her., *Cnicus virginianus* [could be either *Cnicus virginianus* Hook. (= *Carduus lecontei* Pollard) or *Cnicus virginianus* Pursh], chrysanthemum [*Chrysanthemum* or a similar genus], *Cirsium arvense* (L.) Scop., *C. discolor* (Muhl. *ex* Willd.) Spreng., *Cnicus lanceolatus* (L.) Willd. [*Cirsium vulgare* (Savi) Tenn.], dahlia [*Dahlia*], *Helianthus annuus* L., *H. grosseserratus* Martens, *H. tuberosus* L., *Prenanthes crepidinea* Michx., *Solidago altissima* L., *S. canadensis* L., *S. juncea* Ait., *S. nemoralis* Ait., *S. rigida* L., *Symphotrichum ericoides* (L.) Nesom, marigold [*Tagetes*], *Vernonia interior* Small [*V. baldwinii* ssp. *interior* (Small) W. Z. Faust] (Asteraceae); *Barbarea vulgaris* R. Br., turnip [*Brassica rapa* L.], radish [*Raphanus sativus* L.] (Brassicaceae); bouncing bet [*Saponaria officinalis* L.] (Caryophyllaceae); *Beta vulgaris* L., *Chenopodium album* L., *Kochia scoparia* (L.) Schrad., *Salsola kali* L. (Chenopodiaceae); melon [likely *Citrullus lanatus* (Thunb.) Matsum. & Nakai or *Cucumis melo* L.], cucumber [*Cucumis sativus* L.], *Cucurbita maxima* Duchn. *ex* Lam., *C. pepo* L., *Lagenaria siceraria* (Mol.) Standl. (Cucurbitaceae); *Euphorbia marginata* Pursh (Euphorbiaceae); *Cercis canadensis* L., soybean [*Glycine max* (L.) Merr.], alfalfa [*Medicago sativa*], sweet-clover [*Melilotus*], lima bean [*Phaseolus lunatus* L.], wax bean [*Phaseolus vulgaris* L.], pea [likely *Pisum sativum* L.], red clover [*Trifolium pratense* L.] (Fabaceae); gladiolus [*Gladiolus*] (Iridaceae); salvia [*Salvia*] (Lamiaceae); cotton [*Gossypium*] (Malvaceae); evening primrose [*Oenothera*] (Onagraceae); *Agropyron*, *Avena*, barley [*Hordeum*], *Elymus*, *Eragrostis*, *Panicum*, *Setaria*, grain sorghum [*Sorghum bicolor*], milo [*Sorghum bicolor*], Sudan grass [*Sorghum sudanense* (Piper) Stapf], *Triticum* (Poaceae); *Polygonum pensylvanicum* L. (Polygonaceae); *Portulaca oleracea* L. (Portulacaceae); *Malus x domestica* Borkh. [*M. sylvestris* P. Mill.], rose [*Rosa*] (Rosaceae); and willow [*Salix*] (Salicaceae) (Allen, 1975; Anonymous, 1960h, 1960s, 1962n, 1963b, 1964r, 1965q, 1965s, 1966r, 1966t, 1966v, 1967q, 1967s, 1968b, 1968p, 1970h, 1970j, 1970l, 1970n; Beirne, 1971; Bergman, 1962b; Bickenstaff & Huggans, 1962; Blatchley, 1892, 1910; Brown *et al.*, 1988; Burbutis, 1968; Chagnon, 1938; Chagnon & Robert, 1962; Chittenden, 1912b; Cinereski & Chiang, 1968; Cooley & Walker, 1965; Crosby & Leonard, 1918; Dailey *et al.*, 1978; Douglass, 1929; Forbes, 1883a, 1894, 1896; Forbes & Hart, 1900; French, 1882; Fronk & Slater, 1956; Garman, 1907; George & Hintz, 1966; Goble, 1972; Hacker, 1973, 1974, 1979; Hanten, 1961; Harrington, 1894; Harris & Piper, 1970; Hayes, 1922; Hilgendorf & Goeden, 1981; Hill & Mayo, 1980; Hintz, 1962b; Howe & George, 1966; Howe & Rhodes, 1976; Jaques, 1951; Jones, 1963; Judd, 1970; Keith *et al.*, 1967; Lee, 1949; Kyd & Thomas, 1956, 1957; Kyd *et al.*, 1959b, 1959c; Ludwig & Hill, 1975; Lyon, 1963b; Messina & Root, 1980; Munson *et al.*, 1961; Race, 1968; Riley, 1880; Robertson, 1894b, 1896b, 1929; Ruppel & Harmon, 1976; Schwitzgebel & Wilbur, 1942; Shaw *et al.*, 1978; Sholes, 1984; Smith, 1943; Spawn, 1962; Swan & Papp, 1972; Thomas & Werner, 1981; Townsend, 1902; Turnipseed & Kogan, 1976; Udine, 1964; Walker, 1936; Webster, 1890b, 1893b, 1895b, 1908, 1913b; Whelan, 1936; White, 1966, 1969). These associations frequently involved flowers or fruits rather than foliage, and at least most of them were probably based on *D. barberi*.

In addition to green plants, “*Diabrotica longicornis*” has even been reported in association with various fungi, including *Alternaria*, *Cladosporium*, *Helminthosporium*, *Peronospora*, *Septoria*, *Uredo*, *Ustilago*, and *Phallus* (Cinereski & Chiang, 1968; Forbes, 1883a, 1894, 1896; Ludwig & Hill, 1975).

Beyond reports in the United States, most of which were likely based on *D. barberi*, Melhus *et al.* (1954) reported “*D. longicornis*” from Guatemala in association with bean [likely *Phaseolus vulgaris*] and corn [*Zea mays*]. Although this report would not have been based on *D. barberi*, the identification as *D. longicornis* is very doubtful.

***Diabrotica tibialis* Jacoby.** This species, including populations in Latin America, has been recorded from *Verbesina* (Asteraceae); *Beta vulgaris* L. (Chenopodiaceae); cucumber [*Cucumis sativus* L.], *Cucurbita*

argyrosperma Huber, *C. martinezii* L. Bailey, Hubbard squash [*C. maxima* Duchn. ex Lam.], *C. moschata* (Duchn. ex Lam.) Duchn. ex Poir., *C. pepo* L., wild gourd [*Cucurbita*] (*Cucurbitaceae*); *Phaseolus vulgaris* L., vetch [likely *Coronilla* or *Vicia*], horse bean [*Vicia faba* L.] (*Fabaceae*); okra [*Abelmoschus esculentus* (L.) Moench], cotton [*Gossypium*], *Hibiscus rosa-sinensis* L. (*Malvaceae*); *Musa x paradisiaca* L. (*Musaceae*); *Oryza sativa* L., *Zea mays* L. (*Poaceae*); tomato [*Lycopersicon esculentum* Mill.], *Solanum elaeagnifolium* Cav., and *S. tuberosum* L. (*Solanaceae*) (Abdullah & Qureshi, 1968; Branson & Krysan, 1987; Chittenden, 1910; Crosby & Leonard, 1918; Domínguez & Carrillo, 1976; Eben, 1999; Eben & Barbercheck, 1996; Goeden, 1971a; Houser & Balduf, 1925; Jackman, 1978b, 1979b; Krysan & Branson, 1983; Maes & Staines, 1991; Marsh, 1910; Melhus *et al.*, 1954; Passoa, 1983; Rodríguez-del-Bosque & Magallanes-Estala, 1994; Wilcox, 1965). Some of these associations involved flowers rather than leaves. Under experimental conditions, *D. tibialis* has been reared on some of the above-mentioned plants, as well as on *Glycine max* (L.) Merr. (*Fabaceae*) (Branson & Krysan, 1987; Eben, 1999; Eben *et al.*, 1997a, 1997b).

Rouse & Medvedev (1972) reported this beetle species from *Apiaceae* (genus not specified). However, their observation was made in Arkansas, well beyond the insect's normal range, and it was probably based on misidentification.

***Diabrotica undecimpunctata* Mannerheim.** In Mexico, the subspecies *Diabrotica u. duodecimnotata* Harold has been reported from "girasol" [*Helianthus*] (*Asteraceae*); alfalfa [*Medicago sativa* L.] (*Fabaceae*); "algodón" [*Gossypium*] (*Malvaceae*); "cebada" [*Hordeum*], *Zea mays* L. (*Poaceae*); and "papa" [*Solanum tuberosum* L.] (*Solanaceae*) (Eben & Barbercheck, 1996; Domínguez & Carrillo, 1976).

The subspecies *D. u. howardi* Barber, frequently cited as *D. duodecimnotata* (Fabricius) in earlier literature, is very well known for its often pestiferous relationship with *Zea mays* (Abdullah & Qureshi, 1968; Anonymous, 1955a; Arant, 1929; Arnett, 1985; Baerg, 1949; Balsbaugh & Hays, 1972; Blatchley, 1910; Borror *et al.*, 1989; Böving, 1927; Branson & Krysan, 1987; Brisley, 1925; Britton, 1919; Campbell & Emery, 1967; Carr, 1988; Chittenden, 1898a, 1903b, 1903c, 1905a, 1912b; Clark, 2000; Crosby & Leonard, 1918; Davidson & Lyon, 1987; Dearborn & Donahue, 1993; Deitz *et al.*, 1976; Douglass, 1929; Downie & Arnett, 1996; Dozier, 1922; Eben, 1999; Eben & Barbercheck, 1997; Eben *et al.*, 1997a; Essig, 1915b, 1958; Everly, 1938, 1940; Fink, 1916; Forbes, 1894, 1896, 1905, 1909; Forbes & Hart, 1900; Garman, 1891a, 1907; Gentry, 1954; Gould, 1962; Greene, 1970; Hansen & Dorsey, 1957; Hawley, 1922; Hill & Mayo, 1980; Hopkins & Rumsey, 1896; Howe & George, 1966; Hunt & Baker, 1982; Isely, 1927, 1929a; Kellogg, 1892; King & Saunders, 1984; Kirk, 1970; Knowlton, 1939; Krysan, 1999; Krysan & Branson, 1983; Little, 1972; Luger, 1899; Luginbill, 1918, 1940; MacGregor & Gutiérrez, 1983; Metcalf, 1909; Metcalf, 1986a; Metcalf & Metcalf, 1993; Milliron, 1958; Murtfeldt, 1890; Neiswander, 1931; Norris & Kogan, 2000; Orton & Chittenden, 1917; Packard, 1952; Papp, 1984; Peck & Thomas, 1998; Pedigo, 1996; Peterson, 1960; Poos & Elliott, 1936; Proctor, 1938, 1946; Quaintance, 1900; Rabb *et al.*, 1955; Rhodes *et al.*, 1980; Riley, 1891; Riley & Enns, 1979; Rouse & Medvedev, 1972; Sanderson, 1906; Sanderson & Peairs, 1931; Sell, 1916; Sharma & Hall, 1973; Smith, 1900, 1910a, 1940, 1943; Sorensen, 1993; Sorensen & Baker, 1983; Swain, 1948; Swan & Papp, 1972; Sweetman, 1926; Tate & Bare, 1946; Turner, 1911; Webster, 1888, 1890b, 1893a, 1893b, 1895b, 1913a; Weiss & Dickerson, 1919; Westcott, 1946; White, 1964; Wilcox, 1954; Wressell, 1955).

This subspecies is also well known for its often pestiferous association with *Cucurbitaceae*, having been recorded from *Citrullus colocynthis* (L.) Schrad., *C. lanatus* (Thunb.) Matsum. & Nakai, *Cucumis anguria* L., *C. hardwickii* Royle, *C. melo* L., *C. sativus* L., *Cucurbita cylindrata* L. H. Bailey, *C. digitata* A. Gray, *C. ecuadorensis* Cutler & Whitaker, *C. ficifolia* Bouché, *C. foetidissima* Kunth in H. B. K., *C. gracilior* Bailey, *C. lundelliana* Bailey, *C. martinezii* Bailey, *C. maxima* Duchn. ex Lam., *C. melopepo* Lour., *C. mixta* Pang., *C. moschata* (Duchn. ex Lam.) Duchn. ex Poir., *C. okeechobeensis* (Small) L. H. Bailey, *C. palmata* S. Wats., *C. palmeri* Bailey, *C. pedatifolia* Bailey, *C. pepo* L., *C. sororia* Bailey, *C. texana* A. Gray, wild cucumber [*Echinocystis lobata* (Michx.) Torr. & Gray], and *Lagenaria siceraria* (Mol.) Standl. (Abdullah & Qureshi, 1968; Andersen & Metcalf, 1986, 1987; Arant, 1929; Arnett, 1985; Baerg, 1949; Balsbaugh & Hays, 1972; Barwood & Brackeen, 1964b; Beirne, 1971; Blatchley, 1910; Borror & White, 1970; Borror *et al.*, 1989; Brewer *et al.*, 1987; Brisley, 1925; Britton, 1919; Burnside & Barry, 1976; Butcher, 1932; Campbell & Emery, 1967; Carr, 1988; Chagnon, 1938; Chagnon & Robert, 1962; Chio *et al.*, 1978; Chittenden, 1898a, 1898b, 1903b, 1903c, 1905a, 1912b; Clark, 2000; Cockerell, 1900; Crosby & Leonard, 1918; Davidson & Lyon, 1987; Dearborn & Donahue, 1993; Dillon & Dillon, 1961; Downie & Arnett, 1996; Eben, 1999; Eben & Barbercheck, 1997; Eben *et al.*, 1997a; Edelson, 1986; Edwards, 1949; Essig, 1915b, 1958; Ferguson *et al.*, 1983; Fisher *et al.*, 1984; Forbes, 1894, 1896; Fox, 1972; Fronk & Slater, 1956; Garman, 1891a; Gould, 1962; Hopkins & Rumsey, 1896; Howe & George, 1966; Howe & Rhodes, 1976; Howe *et al.*, 1976; Hockett, 1929a, 1929b; Hunt & Baker, 1982; Isely, 1927, 1929a; King & Saunders, 1984; Kirk, 1970; Knowlton, 1939; Krysan, 1986, 1999; Lawrence & Bach, 1989; Little, 1972; Luginbill, 1918, 1940; MacGregor & Gutiérrez, 1983; McQueen, 1963g; Metcalf, 1909, 1979, 1986b; Metcalf & Metcalf, 1993; Metcalf &

Rhodes, 1990; Metcalf *et al.*, 1994; Milliron, 1958; Murtfeldt, 1890; Neiswander, 1931; Orton & Chittenden, 1917; Overman & MacCarter, 1972; Papp, 1984; Pedigo, 1996; Perkins, 1890; Peterson, 1960; Proctor, 1938, 1946; Quaintance, 1900; Rau & Rau, 1916; Rhodes *et al.*, 1980; Riley, 1870d, 1891; Riley & Enns, 1979; Sanderson & Peairs, 1931; Scott *et al.*, 1932; Sell, 1916; Sharma & Hall, 1973; Smith, 1900, 1910a, 1940, 1943; Smith & Allen, 1932; Sorensen, 1993; Sorensen & Baker, 1983; Sullivan & Brett, 1971; Swain, 1948; Swan & Papp, 1972; Sweetman, 1926; Turner, 1911; Walsh & Riley, 1869d; Webster, 1893a, 1895b, 1913a; Westcott, 1946; White, 1964; Wiseman *et al.*, 1961). Associations with Cucurbitaceae involve not only adults, but also larvae. In previously unpublished field work in Missouri, we have found adults feeding in flowers of *Sicyos angulatus* L.

Beyond *Zea mays* and Cucurbitaceae, *D. u. howardi* has been recorded from *Sagittaria latifolia* Willd. (Alismataceae); *Amaranthus retroflexus* L. (Amaranthaceae); narcissus [*Narcissus*] (Amaryllidaceae); celery [*Apium*], *Cicuta maculata* L., *Cryptotaenia canadensis* (L.) DC., *Daucus carota* L., *D. pusillus* Michx., *Heracleum lanatum* Michx., *Oxypolis rigidior* (L.) Raf., parsnip [*Pastinaca sativa* L.], *Sium cicutifolium* Schrank, *Zizia aurea* (L.) W. D. J. Koch (Apiaceae); *Asclepias syriaca* L. (Asclepiadaceae); ragweed [*Ambrosia*], *Artemisia californica* Less., *Aster sagittifolius* Willd., *Baccharis halimifolia* L., *B. neglecta* Britt., *B. salicifolia* (Ruíz & Pav.) Pers., *Bidens laevis* (L.) B.S.P., *Boltonia asteroides* (L.) L'Her., calendula [*Calendula*], *Callistephus chinensis* (L.) Benth., *Carduus spinosissimus* Walt. [*Cirsium horridulum* Michx.], *Coreopsis aristosa* Michx., *Cosmos*, *Dahlia variabilis* (Willd.) Desf. [*D. pinnata* Cav.], *Echinacea pallida* (Nutt.) Nutt., *Erigeron philadelphicus* L., *Eupatorium serotinum* Michx., *Flourensia cernua* DC., *Galinsoga ciliata* (Raf.) Blake [*G. quadriradiata* Ruiz & Pavin], *Gutierrezia microcephala* (DC.) A. Gray, *G. sarothrae* (Pursh) N. L. Britt. & Rusby, *Helianthus annuus* L., *H. grosseserratus* Martens, *Ionactis linariifolius* (L.) Greene, *Krigia amplexicaulis* Nutt., *Lactuca sativa* L., *Leucanthemum maximum* (Ramond) DC., *Parthenium argentatum* A. Gray, *P. integrifolium* L., *Rudbeckia hirta* L., *Senecio*, *Solidago altissima* L., *S. canadensis* L., *S. missouriensis* Nutt., *S. rigida* L., *Symphyotrichum ericoides* (L.) Nesom, *Aster salicifolius* Ait. [*S. praealtum* (Poir.) Nesom], *S. turbinellum* (Lindl.) G. L. Nesom, *Taraxacum taraxacum* (L.) Karst. [*T. officinale* Weber ex F. H. Wiggers], *Vernonia interior* Small [*V. baldwinii* ssp. *interior* (Small) W. Z. Faust], zinnia [*Zinnia*] (Asteraceae); *Impatiens balsamina* L., *I. biflora* Willd. (Balsaminaceae); *Carpinus caroliniana* Walt. (Betulaceae); catalpa [*Catalpa*] (Bignoniaceae); horseradish [*Armoracia rusticana* (Lam.) P. G. Gaertn., B. Mey., & Scherb.], *Brassica nigra* (L.) W. D. J. Koch, *B. oleracea* L., *B. rapa* L., *Iberis umbellata* L., *Lepidium alyssoides* A. Gray [*L. montanum* ssp. *alyssoides* (A. Gray) C. L. Hitchcock], *Raphanus sativus* L. (Brassicaceae); cactus [Cactaceae]; *Cannabis sativa* L., hop [*Humulus*] (Cannabaceae); *Canna indica* L. (Cannaceae); elderberry [*Sambucus*] (Caprifoliaceae); beet [*Beta vulgaris* L.], sugar beet [*Beta vulgaris*], *Chenopodium album* L., spinach [*Spinacia oleracea* L.] (Chenopodiaceae); *Calystegia sepium* (L.) R. Br., *Convolvulus*, *Ipomoea batatas* (L.) Lam. (Convolvulaceae); *Cornus stolonifera* Michx. [*C. sericea* L.] (Cornaceae); *Cyperus esculentus* L., *C. alternifolius* auct. non L. [*C. involucratus* Rottb.], *C. strigosus* L., *Scirpus fluviatilis* (J. Torr.) A. Gray (Cyperaceae); azalea [*Rhododendron*] (Ericaceae); *Amorpha canescens* Pursh, *A. fruticosa* L., *Arachis hypogaea* L., jackbean [*Canavalia*], *Cercis canadensis* L., *Dalea purpurea* Vent., *Daubentonia longifolia* (Cav.) DC., *Erythrina herbacea* L., *Glycine max* (L.) Merr., Austrian winter pea [*Lathyrus hirsutus* L.], *Lathyrus odoratus* L., *L. sativus* L., *L. tingitanus* L., *Medicago arabica* (L.) Huds., *M. hispida* Gaertn. [*M. polymorpha* L.], *M. sativa*, sweetclover [*Melilotus*], *Phaseolus lunatus* L., *P. vulgaris* L., *Pisum sativum* L., *Prosopis glandulosa* J. Torr., black locust [*Robinia pseudoacacia* L.], crimson clover [*Trifolium incarnatum* L.], *Trifolium pratense* L., white clover [*T. repens* L.], *Trigonella foenum-graecum* L., *Vicia atropurpurea* Desf. [*V. benghalensis* L.], *V. cracca* L., *V. dasycarpa* Ten., *V. faba* L., *V. hirsuta* (L.) S. F. Gray, *V. monantha* Retz., *V. sativa* L., hairy vetch [*V. villosa* Roth], *Vigna catjang* (Burm. f.) Walp. [*Vigna unguiculata* Clav.], *V. sinensis* (L.) Savi ex Hassk. [*V. unguiculata*], wisteria [*Wisteria*] (Fabaceae); *Quercus palustris* Muenchh., *Q. rubra* L. (Fagaceae); currant [*Ribes*], gooseberry [probably *Ribes*] (Grossulariaceae); gladiolus [*Gladiolus*] (Iridaceae); *Monarda fistulosa* L., salvia [*Salvia*] (Lamiaceae); *Allium helleri* Small [*A. drummondii* Regel], *Asparagus officinalis* L. (Liliaceae); *Linum rupestre* (A. Gray) Engelm. ex A. Gray (Linaceae); *Magnolia virginiana* L. (Magnoliaceae); *Abelmoschus esculentus* (L.) Moench, hollyhock [*Alcea rosea* L.], *Gossypium herbaceum* L., *G. hirsutum* L., *Hibiscus moscheutos* L. (Malvaceae); *Nelumbo lutea* (Willd.) Pers., *N. pentapetala* (Walter) Fernald (Nelumbonaceae); four-o'clock [*Mirabilis*] (Nyctaginaceae); *Hartmannia speciosa* (Nutt.) Small, *Oenothera fruticosa* L. (Onagraceae); *Oxalis corniculata* L. (Oxalidaceae); *Phytolacca* (Phytolaccaceae); *Plantago aristata* Michx. (Plantaginaceae); cane [likely either *Arundinaria* or *Saccharum officinarum* L.], *Avena sativa* L., *Bouteloua eriopoda* (J. Torr.) J. Torr., *Bromus catharticus* Vahl., Bermuda grass [*Cynodon dactylon* (L.) Pers.], *Digitaria sanguinalis* (L.) Scop., *Echinochloa crus-galli* (L.) Beauv., fescue grass [*Festuca* or *Vulpia*], *Hordeum vulgare* L., *Oryza sativa* L., *Panicum dichotomiflorum* Michx., *P. miliaceum* L., pearl millet [*Pennisetum americanum* (L.) K. Schum.], timothy [*Phleum*], *Secale cereale* L., *Sorghum vulgare* Pers. [*Sorghum bicolor*

(L.) Moench], *S. halepense* (L.) Pers., sudangrass [*S. sudanense* (Piper) Stapf], *Triticum aestivum* L. (Poaceae); buckwheat [*Eriogonum*, *Fagopyrum*, or *Polygonum*], *Polygonum perfoliatum* L., rhubarb [*Rheum rhabarbarum* L.] (Polygonaceae); *Ceanothus americanus* L. (Rhamnaceae); quince [*Cydonia oblonga* Mill.], strawberry [*Fragaria*], *Malus x domestica* Borkh. [*M. sylvestris* P. Mill.], apricot [*Prunus armeniaca* L.], Governor Wood cherry [*Prunus avium* (L.) L.], *Prunus caroliniana* Ait., peach [*P. persica* (L.) Batsch], plum [*Prunus*], pear [*Pyrus*], *Rosa humilis* Marsh., Hansell raspberry [*Rubus*], spirea [*Spiraea*] (Rosaceae); coffee-bean [*Coffea arabica* L.], Cape-jasmine [*Gardenia jasminoides* J. Ellis] (Rubiaceae); Satsuma orange [*Citrus reticulata* Blanco], *Ptelea mollis* M. A. Curtis (Rutaceae); willow [*Salix*] (Salicaceae); *Smilax* (Smilacaceae); *Atropa belladonna* L., *Capsicum frutescens* L. [*C. annuum* L.], *Datura stramonium* L., *Lycopersicon esculentum* Mill., *Nicotiana tabacum* L., petunia [*Petunia*], *Physalis pubescens* L., *Solanum carolinense* L., *S. elaeagnifolium* Cav., *S. melongena* L., *S. tuberosum* (Solanaceae); camellia [*Camellia*] (Theaceae); *Lantana macropoda* J. Torr., *Verbena bracteosa* Michx., *V. officinalis* L., *V. stricta* Vent. (Verbenaceae); and grape [*Vitis*] (Vitaceae) (Abdullah & Qureshi, 1968; Andrews, 1923; Anonymous, 1952, 1954b, 1954h, 1955a, 1956d, 1959j, 1959p, 1960f, 1960h, 1960m, 1961a, 1961b, 1961e, 1961i, 1961l, 1961m, 1961n, 1961v, 1962c, 1962g, 1962m, 1963c, 1964f, 1964s, 1964t, 1965p, 1966j, 1967j, 1967v, 1968n, 1968t, 1969a, 1969h, 1969k, 1969o, 1969r, 1971d, 1971i, 1974b; Arant, 1929; Arnett, 1985; Arnett & Jacques, 1981; Arthur & Arant, 1956; Ashmead, 1894; Baerg, 1949; Batra, 1979; Beckham, 1953b; Beckham & Tippins, 1972; Beirne, 1971; Beisler *et al.*, 1977; Bell, 1970; Bell & Roselle, 1962; Bergman, 1960, 1961a, 1961c, 1964a; Bickensstaff & Huggans, 1962; Blackman, 1918; Blatchley, 1910, 1924a; Boldt & Robbins, 1987, 1990; Bray & Triplehorn, 1953; Brisley, 1925; Britton, 1919; M. W. Brown, 1993; M. W. Brown *et al.*, 1988; Bruner, 1891a, 1891b; Burbutis, 1961a; Burbutis & Conrad, 1958a, 1958b, 1958c; Burbutis & Mason, 1959b, 1959c, 1959d, 1960i, 1960m, 1960q, 1960r, 1960s, 1960t, 1961e, 1961h, 1961k, 1961m; Burbutis & Woodall, 1965b; Burbutis *et al.*, 1961, 1963; Burge *et al.*, 1955; Burke, 1963; Burns, 1954; Buttram, 1963; Calkins *et al.*, 1963; Campbell & Emery, 1967; Cancienne, 1964a; Carr, 1988; Chalfant & Mitchell, 1967a, 1967b; Chittenden, 1898a, 1898b, 1899a, 1902a, 1903b, 1903c, 1905a, 1910, 1912b; Cleveland & Hamilton, 1959; Cockerell, 1900; Crosby & Leonard, 1918; Cuthbert, 1953; Cuthbert & Davis, 1970, 1971; Cuthbert & Jones, 1972; Cuthbert & Reid, 1965; Dailey *et al.*, 1978; Davidson & Lyon, 1987; J. J. Davis, 1954; Dawson *et al.*, 1961; Dearborn & Donahue, 1993; Deitz *et al.*, 1976; Dickerson & Weiss, 1920; Dillon & Dillon, 1961; Douglas & Ingram, 1942; Douglass, 1929; Downie & Arnett, 1996; Dozier, 1922; Drake & Harris, 1932; Drees & Rice, 1990; Dudley *et al.*, 1952; Ebeling, 1959; Eben, 1999; Eben & Barbercheck, 1997; Eddy & Nettles, 1930; Essig, 1915b, 1958; Everly, 1938, 1940; Fink, 1916; Forbes, 1894, 1896, 1905; Forbes & Hart, 1900; Foster *et al.*, 1981; Fox, 1972; Fox & Stirrett, 1952; Fronk, 1950; Garman, 1891a, 1907; Garner, 1954; Goeden, 1971a; Gould, Gould, 1957, 1959b; Gould *et al.*, 1954; Grayson & Poos, 1947; Greene, 1970; Grimes, 1958a, 1958b, 1959a; Grimes *et al.*, 1959; Guss & Krysan, 1973; Guyton & Grimes, 1958; Hamilton, 1992; Harding, 1959a, 1960b, 1962, 1963a; Harding & Bissell, 1954; Harding & Hawkins, 1959; Harding & Newsom, 1963; Harrington, 1883; Hartzog *et al.*, 1964; Hatch, 1924b; Hawley, 1918, 1922; Hayes, 1922; Heiser, 1963; Helms, 1962; Hester & Young, 1952; Hilgendorf & Goeden, 1981; Hofmaster, 1965b; Hofmaster & Morris, 1958; Howe & George, 1966; Hunt & Baker, 1982; Hunter *et al.*, 1912; Hutchins, 1953; Hutson, 1955; Isely, 1929a; Jackman, 1979e; Jansen & Staples, 1971; Johnson, 1957; Jolivet, 1979a, 2001; Jolivet & Verma, 2002; Jordan *et al.*, 1953; Judd, 1970; Kantack, 1965; Keith *et al.*, 1967; Kirk, 1969, 1970; Knowlton, 1939; Krysan, 1999; Kyd & Thomas, 1953a, 1953b, 1954b; Lacroix, 1935; Lago & Mann, 1987; Lago & Stanford, 1989; Lago *et al.*, 2002; Lavigne, 1976; Lee, 1949; Leigh & Hyer, 1971; Lemons, 1968; Little, 1972; Long & Dogger, 1953; Lovell, 1915; Luginbill, 1918, 1940; MacCreary & Conrad, 1958c; MacGregor & Gutiérrez, 1983; Marsh, 1910; May, 1953a; May & Guthrie, 1954; McQueen, 1963a, 1963h, 1963i, 1964b, 1964g, 1965a, 1965b, 1966c, 1967a; Mead, 1964; Messina & Root, 1980; Metcalf, 1909; Metcalf & Metcalf, 1993; Metcalf & Rhodes, 1990; Metcalf & Underhill, 1919; Metcalf *et al.*, 1994; Milliron, 1953b, 1954, 1955c, 1955e, 1955f, 1955g, 1955h, 1955i, 1955j, 1956a, 1957b, 1958; Milliron & Conrad, 1957a, 1957b, 1957d, 1957e, 1957f; Mohyuddin, 1969a; Morgan, 1911, 1953; Mowbray *et al.*, 1965; Murtfeldt, 1890; Neiswander, 1931; Newell & Smith, 1905; Newsom, 1963i; Newsom & Cancienne, 1961a; Norris & Kogan, 2000; Oliver, 1955a, 1955b, 1955c, 1956a, 1956b, 1956c, 1957a, 1957b; Oliver & Dickinson, 1957; Orton & Chittenden, 1917; Osborn, 1891; Osmun, 1958a, 1958b; Ouzts, 1963; Packard, 1888, 1952; Palmer, 1987; Palmer & Bennett, 1988; Papp, 1984; Patch, 1913; Pepper, 1955; Peterson, 1960; Pimentel, 1961; Pirone, 1970; Proctor, 1938, 1946; Quaintance, 1900; Rabb *et al.*, 1955; Radcliffe *et al.*, 1990; Randolph, 1962; Randolph & King, 1954; Rau & Rau, 1916; Reid & Cuthbert, 1951; Richerson & Boldt, 1995; Riley, 1891, 1983; Riley & Howard, 1888b; Robertson, 1889b, 1890, 1891, 1892b, 1894b, 1929; Robinson, 1974; Rogers, 1988; Romney, 1946; Roney, 1967; Roselle, 1960; Rosewall, 1922; Ross, 1963; Rouse & Medvedev, 1972; Rowell & Morris, 1961; Rutledge & St. Cloud, 1965; Sanderson, 1906; Sartor, 1970a, 1970b, 1970c; Schalk & Creighton, 1989; Schwitzgebel & Wilbur, 1942; Scott *et al.*, 1932; Seibels,

1961a, 1961b, 1967; Sell, 1916; Shands & Landis, 1964; Shuler, 1964; C. C. Smith, 1940; J. C. Smith, 1971; R. C. Smith, 1938, 1943, 1952; Smith & Allen, 1932; Smith & Porter, 1971; Smith & Ueckert, 1974; Snapp, 1954, 1956; Snapp *et al.*, 1958; Sohmer & Sefton, 1978; Sorensen, 1993; Sorensen & Baker, 1983; Spink, 1958, 1959a, 1959b, 1959c, 1960a; Stiles, 1952; Stirrett, 1935; Stone & Fries, 1986; Sumrall, 1958; Swain, 1948; Swan & Papp, 1972; Sweet, 1930; Sweetman, 1926, 1928; Tate, 1979; Thomas, 1943; Townsend, 1892, 1902; Turner, 1911; Turnipseed & Kogan, 1976; Tynes, 1964b, 1964h; VanCleave *et al.*, 1959; Vanderford, 1963, 1965; Walker, 1936; Wallace *et al.*, 1965; Watts, 1963; Webster, 1888, 1893a, 1895b, 1913a; Weigel & Baumhofer, 1948; Weiss & Dickerson, 1919, 1921; Westcott, 1946; Wheeler & Mengel, 1984; Wheeler & Stimmel, 1983; Whelan, 1936; White, 1964; Wilcox, 1965, 1979; Wilson *et al.*, 1982).

In previously unpublished field work in Missouri, we have found *D. u. howardi* feeding on flowers of *Coreopsis tripteris* L., *Helianthus hirsutus* Raf., *H. tuberosus* L., *Symphotrichum anomalum* (Engelm.) Nesom (Asteraceae); *Sambucus canadensis* L. (Caprifoliaceae); *Ipomoea hederacea* Jacq. (Convolvulaceae); *Euphorbia marginata* Pursh (Euphorbiaceae); *Collinsonia canadensis* L. and *Physostegia virginiana* (L.) Benth. (Lamiaceae). Also in Missouri, we have found adults feeding on leaves of *Ambrosia trifida* L., *Helianthus tuberosus*, *Rudbeckia subtomentosa* Pursh (Asteraceae); and *Apios americana* Medik. (Fabaceae). Still in Missouri, we have found adults on *Grindelia lanceolata* Nutt., *Liatris aspera* Michx., *Prenanthes altissima* L., *Silphium perfoliatum* L., *Solidago bicolor* L., *S. gigantea* Ait., *S. nemoralis* Ait., *S. petiolaris* Ait., *Symphotrichum drummondii* (Lindl.) Nesom, *S. patens* (Ait.) Nesom, *Verbesina alternifolia* (L.) Britt. ex Kearney, *V. virginica* L. (Asteraceae); *Ipomoea lacunosa* L. (Convolvulaceae); *Pycnanthemum albescent* Torr. & Gray (Lamiaceae); and *Oenothera biennis* L. (Onagraceae). However, we did not observe actual feeding on these plants, although many of them, especially on floral parts, exhibited heavy feeding damage. In Baja California, we have associated this subspecies with *Malva rotundifolia* L. (Malvaceae). Records maintained by the USDA-ARS Grassland, Soil and Water Research Laboratory state that adults have been collected from *Carduus macrocephalus* Desf. [*C. nutans* L.], *Gutierrezia dracunculoides* (DC.) Hoffm., *G. microcephala* (DC.) A. Gray, *G. texana* (DC.) Torr. & Gray, and *Onopordum acanthium* L. (Asteraceae) (Thomas O. Robbins, pers. comm.).

Although some of the above-mentioned associations included larval feeding, many involved only adults, and some concerned the flowers rather than the leaves. According to Krysan (1986), larval hosts are not only Cucurbitaceae and Poaceae, but also Asteraceae, Convolvulaceae, Cyperaceae, Fabaceae, and Solanaceae. Beyond green plants, this subspecies has even been reported feeding on fungi (Forbes, 1894, 1896; Forbes & Hart, 1900; Riley, 1891). Wray & Brimley (1943) reported "*Diabrotica 12-punctata*" from *Sarracenia flava* L., *S. purpurea* L., and *S. rubra* Walt. (Sarraceniaceae), but these were probably instances in which the insects were prey rather than herbivores.

Chalfant & Mitchell (1967a) reported laboratory experiments in which *D. u. howardi* oviposited in soil beneath various preparations of carrot [*Daucus carota*] (Apiaceae); sweet potato [*Ipomoea batatas*] (Convolvulaceae); cucumber [*Cucumis sativus*], yellow squash [*Cucurbita pepo*], pumpkin [*Cucurbita*] (Cucurbitaceae); snap bean [*Phaseolus vulgaris*], broadbean [*Vicia faba*] (Fabaceae); and apple [*Malus sylvestris*] (Rosaceae). At least a few eggs were deposited under all plants and many eggs under some. It was extrapolated that oviposition indicated food preference. In other laboratory experiments, Metcalf *et al.* (1982) and Sharma & Hall (1971) reported at least some feeding on *Citrullus colocynthis*, *C. lanatus*, *Cucumis anguria*, *C. dipsaceus* Ehrenb. ex Spach, *C. melo*, *C. myriocarpus* E. Mey. ex Naud., *C. prophetarum* L. f., *Cucurbita ecuadorensis*, *C. ficifolia*, *C. foetidissima*, *C. gracilior*, *C. lundelliana*, *C. martinezii*, *C. maxima*, *C. mixta*, *C. moschata*, *C. okeechobeensis*, *C. palmeri*, *C. pedatifolia*, *C. pepo*, *C. sororia*, *C. texana*, *Lagenaria siceraria*, *Luffa acutangula* (L.) Roxb., and *L. cylindrica* (L.) Roemer [*L. aegyptiaca* Mill.]. Sharma & Hall (1973) conducted field experiments in which adults of *D. u. howardi* were attracted in varying degrees to fruits of Cucurbitaceae, including several of the species mentioned above and also *Momordica charantia* L. Branson & Reyes Rueda (1983) reared adults from *Zea diploperennis* Iltis, Doeblay, & R. Guzmán (Poaceae) that was experimentally infested with larvae.

Diabrotica u. tenella LeConte has been reported from dahlia [*Dahlia*], *Ericameria nauseosa* (Pall. ex Pursh) Nesom & Baird, lettuce [*Lactuca*] (Asteraceae); beet [*Beta vulgaris*] (Chenopodiaceae); *Citrullus vulgaris* Schrad. ex Eckl. & Zeyh. [*C. lanatus*], *Cucumis melo*, *C. sativus*, *Cucurbita* (Cucurbitaceae); *Medicago sativa*, bean [likely *Phaseolus vulgaris*], pea [likely *Pisum sativum*] (Fabaceae); cotton [*Gossypium*] (Malvaceae); *Hordeum sativum* Pers. [*H. vulgare*], *Sorghum*, corn [*Zea mays*] (Poaceae); apricot [*Prunus armeniaca*], peach [*Prunus persica*] (Rosaceae); *Solanum elaeagnifolium* and *S. tuberosum* (Solanaceae) (Anonymous, 1958i, 1959d, 1959e, 1959f, 1959i, 1959l, 1959q, 1959t, 1960d, 1960g, 1963t, 1970m; Bibby, 1961; Campbell, 1969a, 1969b; Elson, 1966a, 1966b, 1966c, 1967; Essig, 1915b; Forbes, 1905; Goeden, 1971a; Knowlton, 1954b, 1955c, 1957a, 1957b; Neiswander, 1931; Townsend, 1892; Werner *et al.*, 1979). In previously unpublished observations in Baja California, we have associated this subspecies with *Agave shawii*

Engelm. (Agavaceae), *Cucurbita mixta* (Cucurbitaceae), and *Prosopis* (Fabaceae).

Larvae of the subspecies *D. u. undecimpunctata*, sometimes cited as the synonym *D. soror* LeConte, have been reported from *Beta vulgaris* (Chenopodiaceae); cantaloupe [*Cucumis melo*], cucumber [*Cucumis sativus*], squash [*Cucurbita*], gourd [*Cucurbita* or a similar genus] (Cucurbitaceae); *Arachis hypogaea*, vetch [likely *Coronilla* or *Vicia*], sweet pea [*Lathyrus odoratus*], *Medicago sativa*, bean [likely *Phaseolus vulgaris*], pea [likely *Pisum sativum*] (Fabaceae); barley [*Hordeum*], rice [*Oryza sativa*], canary grass [*Phalaris*], wheat [*Triticum*], *Zea mays* (Poaceae); *Polygonum* (Polygonaceae); tomato [*Lycopersicon esculentum*] and potato [*Solanum tuberosum*] (Solanaceae) (Anonymous, 1955e, 1961a; Arnett, 1985; Arnett & Jacques, 1981; W. L. Baker, 1928; Beller & Hatch, 1932; Böving, 1927; Carr, 1988; Chittenden, 1910; Crosby & Leonard, 1918; Davidson & Lyon, 1987; Doane, 1897; Douglas & Ingram, 1942; Dudley *et al.*, 1952; Eben *et al.*, 1997a; Essig, 1915b, 1958; Essig & Hoskins, 1944; Every, 1959; Every & Morrison, 1955; Forbes, 1905; Horne & Essig, 1921; Howe & George, 1966; Krysan & Branson, 1983; Little, 1972; Michelbacher *et al.*, 1943; Morrison, 1962; Quayle, 1938; Rockwood & Chamberlin, 1943; Sanderson & Peairs, 1931; Shands & Landis, 1964; Smith & Michelbacher, 1949; Webster, 1895b; Webster & Baker, 1929; Westcott, 1946). Rockwood & Chamberlin (1943) noted that large numbers of adults emerged from fields of Austrian winter field pea [*Lathyrus hirsutus*] (Fabaceae), and they postulated that this plant was a larval host. Additionally, under laboratory conditions, larvae have been reared on red clover [*Trifolium pratense*] (Fabaceae) (Rockwood & Chamberlin, 1943). Krysan (1986) stated that larval hosts are Cucurbitaceae, Fabaceae, Poaceae, Polygonaceae, and Solanaceae.

Other associations for *D. u. undecimpunctata*, often involving only the adults, have been reported for maple [*Acer*] (Aceraceae); *Yucca whipplei* J. Torrey (Agavaceae); parsley [*Petroselinum crispum* (Mill.) Nyman ex A. W. Hill] (Apiaceae); *Ambrosia acanthicarpa* Hook., *A. confertiflora* DC., *A. psilostachya* DC., *Anthemis cotula* L., burdock [*Arctium*], *Aster*, *Baccharis pilularis* DC., *Bellis perennis* L., *Carduus pycnocephalus* L., calliopsis [*Coreopsis*], coreopsis [*Coreopsis*], *Cynara scolymus* L., cosmos [*Cosmos*], dahlia [*Dahlia*], *Dendranthema indicum* (L.) Des Moul., [*Helianthus*], *Lactuca serriola* L., shasta daisy [*Leucanthemum x superbum* (J. W. Ingram) Berg. ex Kent.], marguerite [*Leucanthemum vulgare* Lam.], black-eyed Susan [*Rudbeckia hirta*], *Silybum marianum* (L.) Gaertn., *Sonchus*, dandelion [*Taraxacum*], *Xanthium spinosum* L., *X. strumarium* L., *Zinnia elegans* Jacq. (Asteraceae); *Brassica oleracea*, turnip [*B. rapa*], mustard [*Brassica* or a similar genus], radish [*Raphanus sativus*] (Brassicaceae); nasturtium [likely *Nasturtium* (Brassicaceae), *Rorippa* (Brassicaceae), or *Tropaeolum* (Tropaeolaceae)]; hop [*Humulus*] (Cannabaceae); canna [*Canna*] (Cannaceae); pink [likely *Dianthus* or a similar genus] (Caryophyllaceae); *Beta vulgaris*, *Salsola kali* L., *Spinacia oleracea* (Chenopodiaceae); morning-glory [likely *Calystegia*, *Convolvulus*, or *Ipomoea*] (Convolvulaceae); *Citrullus vulgaris* [C. lanatus], *Cucumis melo*, *C. sativus*, *Cucurbita foetidissima*, *C. pepo*, *Echinocystis fabacea* Naud., *E. oregana* Cogn. (Cucurbitaceae); *Eleocharis palustris* (L.) Roemer & J. A. Schultes, *Scirpus* (Cyperaceae); *Arachis hypogaea*, vetch [likely *Coronilla* or *Vicia*], *Medicago sativa*, *Phaseolus vulgaris*, pea [likely *Pisum sativum*], *Trifolium pratense*, *Vicia faba*, wisteria [*Wisteria*] (Fabaceae); bleeding heart [*Dicentra*] (Fumariaceae); currant [*Ribes*], gooseberry [likely *Ribes*] (Grossulariaceae); crocus [*Crocus*] (Iridaceae); *Juglans regia* L. (Juglandaceae); avocado [*Persea americana* Mill.] (Lauraceae); lily [*Lilium* or a similar genus] (Liliaceae); hollyhock [*Alcea rosea*], cotton [*Gossypium*] (Malvaceae); mulberry [*Morus*] (Moraceae); broomrape [*Orobanche*] (Orobanchaceae); peony [*Paeonia*] (Paeoniaceae); California poppy [*Eschscholzia californica* Cham.] (Papaveraceae); plantain [*Plantago*] (Plantaginaceae); oats [*Avena*], *Elymus*, *Hordeum gussoneanum* Parl. [*H. geniculatum* All.], *Lolium*, *Phleum pratense* L., *Zea mays* (Poaceae); sorrel [*Rumex*] (Polygonaceae); primrose [*Primula*] (Primulaceae); buttercup [*Ranunculus*] (Ranunculaceae); apple [*Malus sylvestris*], *Prunus armeniaca*, almond [*P. dulcis* (Mill.) D. A. Webb], *P. galatensis* Poir., nectarine [*P. persica*], peach [*P. persica*], cherry [*Prunus*], prune [*Prunus*], pear [*Pyrus*], *Rosa* (Rosaceae); lemon [*Citrus limon* (L.) Burm. f.], *Citrus limonia* Osbeck, *C. medica* L., orange [*Citrus*] (Rutaceae); foxglove [likely *Digitalis*] (Scrophulariaceae); pepper [*Capsicum*], tomato [*Lycopersicon esculentum*], tobacco [*Nicotiana*], eggplant [*Solanum melongena*], *Solanum tuberosum* (Solanaceae); *Typha latifolia* L. (Typhaceae); verbena [likely *Verbena* or a similar genus] (Verbenaceae); and violet [*Viola*] (Violaceae) (Anonymous, 1960d, 1961b, 1961e, 1962e, 1963c, 1963n, 1964n, 1964u, 1967h, 1967i, 1968f, 1968g, 1969d, 1971d, 1971e, 1977c; Arnett, 1985; Arnett & Jacques, 1981; W. L. Baker, 1928; Barrett, 1932; Batra *et al.*, 1981; Beller & Hatch, 1932; Berry, 1970; Burbutis *et al.*, 1961; Capizzi, 1956, 1957a, 1958a, 1958b, 1958c; Carr, 1988; Chittenden, 1910; Comstock, 1880; Crosby & Leonard, 1918; Crowell, 1953, 1955, 1956, 1957; Davis, 1931; Doane, 1897; Ebeling, 1959; Elmore & Campbell, 1936; Essig, 1913, 1915a, 1915b, 1958; Essig & Hoskins, 1944; Every, 1952; Forbes, 1905; Freitag, 1956; Goeden, 1971b, 1974; Goeden & Ricker, 1968, 1974a, 1975, 1976c; Hanna, 1963; Hilgendorf & Goeden, 1983; Hogue, 1993; Horne & Essig, 1921; Howe & George, 1966; Johansen, 1957, 1958; Jolivet, 1979a; Jones, 1959; Larson, 1926; Leigh & Hyer, 1971; McKenzie, 1935; Metcalf *et al.*, 1994; Michelbacher *et al.*, 1941, 1943, 1953; Morrison, 1960a, 1960b, 1960c, 1961a; Morrison *et al.*, 1967;

Neiswander, 1931; Newcomer, 1966; Papp, 1984; Passon, 1967; Quayle, 1938; Radcliffe *et al.*, 1990; Rhodes *et al.*, 1980; Rockwood & Chamberlin, 1943; Roth, 1954; Scott *et al.*, 1932; Sell, 1915; Shands & Landis, 1964; Smith, 1942, 1966; Smith & Michelbacher, 1949; Swan & Papp, 1972; Tilden, 1951; Vertrees, 1965; Vertrees & Larson, 1966; Webster, 1895b; Weigel & Baumhofer, 1948; Weinzierl *et al.*, 1986; Westcott, 1946, 1968; White, 1964). Oddly, beetles have even been observed feeding on aphid honeydew and on slug bait consisting of poisoned bran (Rockwood & Chamberlin, 1943).

In addition to the above-mentioned records, this beetle species (subspecies not clearly indicated) has been reported from *Pastinaca sativa* (Apiaceae); *Anthemis cotula*, calendula [*Calendula*], China-aster [*Calistephus chinensis*], chrysanthemum [*Chrysanthemum* or a similar genus], coreopsis [*Coreopsis*], cosmos [*Cosmos*], *Cynara scolymus*, dahlia [*Dahlia*], *Helianthus annuus*, *Lactuca sativa*, shasta daisy [*Leucanthemum* x *superbum*], *Parthenium argentatum*, *P. hysterophorus* L., *Solidago*, *Zinnia elegans* (Asteraceae); garden balsam [*Impatiens balsamina*] (Balsaminaceae); *Brassica napus* L., *B. oleracea* (Brassicaceae); canna [*Canna*] (Cannaceae); *Beta vulgaris*, *Salsola kali*, *Spinacia oleracea* (Chenopodiaceae); morning-glory [likely *Calystegia*, *Convolvulus*, or *Ipomoea*] (Convolvulaceae); *Citrullus lanatus*, *Cucumis melo*, cucumber [*C. sativus*], *Cucurbita foetidissima*, *C. maxima*, *Marah* (Cucurbitaceae); *Arachis hypogaea*, soybean [*Glycine max*], *Lathyrus odoratus*, *Medicago sativa*, *Phaseolus vulgaris*, *Pisum sativum*, *Prosopis*, *Vigna* (Fabaceae); *Hemerocallis*, *Lilium* (Liliaceae); hollyhock [*Alcea rosea*], cotton [*Gossypium*] (Malvaceae); *Avena*, *Bouteloua*, *Bromus catharticus*, *Cynodon*, *Dactylis*, *Echinochloa*, *Elymus*, *Hordeum*, *Panicum miliaceum*, *Phleum*, *Secale*, *Setaria*, *Sorghum halepense*, sorghum [*Sorghum*], *Triticum aestivum*, *Zea mays*, *Zizania* (Poaceae); loquat [*Eriobotrya japonica* (Thunb.) Lindl.], *Prunus armeniaca*, *P. persica*, cherry [*Prunus*], *Rosa* (Rosaceae); *Coffea* (Rubiaceae); *Citrus* (Rutaceae); *Salix* (Salicaceae); *Lycopersicon esculentum*, petunia [*Petunia*], *Solanum tuberosum* (Solanaceae); and *Vitis* (Vitaceae) (Aguirre Uribe *et al.*, 1988; Carr, 1988; Cranshaw, 1992; Crowson, 1981; Keith & Peterson, 1967; Lange, 1944; Madsen & McNelly, 1961; McClay *et al.*, 1995; Nault *et al.*, 1978; Pirone, 1970; Smith, 1967; Telford, 1957; Thomas & Werner, 1981; Van de Water, 1955; Ward *et al.*, 1977; Wene *et al.*, 1965; Westcott, 1946; White, 1983; Wilcox, 1965, 1979). Some of these associations involved flowers rather than leaves.

***Diabrotica virgifera* LeConte.** This species, both larvae and adults, is well known for its often pestiferous relationship with *Zea mays* L. (Poaceae) (Ball, 1957; Borror *et al.*, 1989; Branson & Ortman, 1967a, 1967b; Branson, 1971; Branson & Krysan, 1981; Branson *et al.*, 1969; Brisley, 1925; Chiang, 1973; Chio *et al.*, 1978; Chittenden, 1905a; Clark, 2000; Cranshaw, 1992; Crosby & Leonard, 1918; Davidson & Lyon, 1987; Dearborn & Donahue, 1993; Domínguez & Carrillo, 1976; Downie & Arnett, 1996; Eben *et al.*, 1997a; Essig, 1958; Gentry, 1954; George & Ortman, 1965; Gillette, 1912; Hill & Mayo, 1980; Houser & Balduf, 1925; Howe & George, 1966; T. B. Johnson *et al.*, 1984; Jolivet, 1998c, 2001; Kirk & Balsbaugh, 1975; Kirk *et al.*, 1968; Krysan, 1993, 1999; Krysan & Branson, 1983; Krysan & Smith, 1987; Krysan *et al.*, 1980, 1989; Lawson, 1991; Levine *et al.*, 2002; Little, 1972; Ludwig & Hill, 1975; McDonald, 1989; Metcalf, 1986a; Metcalf & Metcalf, 1993; Metcalf *et al.*, 1994; Nault *et al.*, 1978; Neiswander, 1931; Onstad *et al.*, 2003; Papp, 1984; Pedigo, 1996; Rhodes *et al.*, 1980; Riley & Enns, 1979; Sanderson & Peairs, 1931; Shaw *et al.*, 1978; Siegfried & Mullin, 1990; Smith, 1966; Spencer *et al.*, 1998, 1999; Swan & Papp, 1972; Tate & Bare, 1946; Thomas & Werner, 1981; White, 1964; Wiesenborn & Krysan, 1980; Wilcox, 1979; Yaro & Krysan, 1986).

Larvae and adults have also been associated with *Setaria* (Poaceae) (Branson & Krysan, 1981; Eben, 1999; Norris & Kogan, 2000; Pedigo, 1996). It has been postulated that the original native host was *Tripsacum* (Poaceae) (Smith, 1966).

Adults have been associated with various Cucurbitaceae, especially with the flowers: watermelon [*Citrullus lanatus* (Thunb.) Matsum. & Nakai], *Cucumis melo* L., *C. sativus* L., *Cucurbita cylindrata* L. H. Bailey, *C. digitata* A. Gray, *C. ecuadorensis* Cutler & Whitaker, *C. foetidissima* Kunth in H. B. K., *C. lundelliana* Bailey, *C. maxima* Duchn. ex Lam., *C. mixta* Pang., *C. moschata* (Duchn. ex Lam.) Duchn. ex Poir., *C. okechobeensis* (Small) L. H. Bailey, *C. palmata* S. Wats., *C. palmeri* Bailey, *C. pedatifolia* Bailey, *C. pepo* L., *C. sororia* Bailey, and *C. texana* A. Gray (Andersen & Metcalf, 1986, 1987; Bach, 1977; Branson & Guss, 1983; Branson & Krysan, 1981; Brisley, 1925; Chio *et al.*, 1978; Chittenden, 1905a; Cranshaw, 1992; Fisher *et al.*, 1984; George & Hintz, 1966; Howe & George, 1966; Howe & Rhodes, 1976; Howe *et al.*, 1976; Jolivet, 2001; Kirk & Balsbaugh, 1975; Krysan & Branson, 1983; Krysan & Smith, 1987; LeConte, 1868; Metcalf, 1979, 1986a, 1986b; Metcalf & Rhodes, 1990; Metcalf *et al.*, 1994; Rhodes *et al.*, 1980; Riley & Enns, 1979; Siegfried & Mullin, 1990; Strauss, 1988).

Additionally, *D. virgifera* (usually adults, although often not specified) has been reported from other plants, but again the associations frequently involved flowers only: *Amaranthus hybridus* L., *A. retroflexus* L. (Amaranthaceae); *Ambrosia trifida* L., *Baccharis salicifolia* (Ruíz & Pav.) Pers., thistle [likely *Carduus* or *Cirsium*], *Gutierrezia sarothrae* (Pursh) N. L. Britt. & Rusby, *Haplopappus ciliatus* DC., *Helianthus annuus* L., *H. tuberosus* L., lettuce [*Lactuca*], *Solidago canadensis* L., *Thelesperma filifolium* (Hook.) A. Gray

(Asteraceae); *Iberis umbellata* L. (Brassicaceae); *Kochia scoparia* (L.) Schrad. (Chenopodiaceae); *Glycine max* (L.) Merr., *Medicago sativa* L., sweetclover [*Melilotus*], bean [likely *Phaseolus vulgaris* L.], *Trifolium pratense* L., *Vigna sinensis* (L.) Savi ex Hassk. [*V. unguiculata* Clav.] (Fabaceae); *Abutilon theophrasti* Medik., cotton [*Gossypium*] (Malvaceae); *Nelumbo pentapetala* (Walter) Fernald (Nelumbonaceae); *Agropyron*, *Coix*, *Elymus*, *Eragrostis*, *Hordeum*, *Oryza*, *Panicum*, *Secale*, *Setaria*, milo [*Sorghum bicolor* (L.) Moench], *Tripsacum*, *Triticum* (Poaceae); *Polygonum pensylvanicum* L. (Polygonaceae); apple [*Malus sylvestris* P. Mill.] (Rosaceae); and tomato [*Lycopersicon esculentum* Mill.] (Solanaceae) (Anonymous, 1970i, 1970j, 1970l, 1970n, 1974a, 1975b; Ball, 1957; Bergman, 1960, 1961a, 1961b, 1962a, 1964b; Boldt & Robbins, 1990; Brisley, 1925; Chittenden, 1905a; Domínguez & Carrillo, 1976; Hantsbarger, 1979; Hill & Mayo, 1980; Howe & George, 1966; Jansen & Staples, 1971; Jones, 1966b; Jones & Coppedge, 2000; Keith, 1968; Keith & Peterson, 1967; Keith *et al.*, 1967; Kirk & Balsbaugh, 1975; Kirk *et al.*, 1968; Krysan, 1999; Krysan & Smith, 1987; Kumar *et al.*, 1976; Lavigne, 1976; Levine *et al.*, 2002; Ludwig & Hill, 1975; Metcalf *et al.*, 1994; Munson, 1970; Onstad *et al.*, 2003; Parshall, 1969; Shaw *et al.*, 1978; Siegfried & Mullin, 1990; Sloderbeck, 1980; Sohmer & Sefton, 1978; Spencer *et al.*, 1998, 1999; Thomas & Werner, 1981; Turnipseed & Kogan, 1976). Also, beetles thought to probably be *D. virgifera* have been reported from a field of mixed Sudan grass [*Sorghum sudanense* (Piper) Stapf] and corn [*Zea mays*] (Poaceae) (Heninger, 1967).

In laboratory or field tests, at least some feeding occurred on lettuce [*Lactuca*] (Asteraceae); cauliflower [*Brassica oleracea* L.], turnip [*B. rapa* L.] (Brassicaceae); *Cucurbita ecuadorensis*, *C. ficifolia* Bouché, *C. foetidissima*, *C. gracilior* Bailey, *C. lundelliana*, *C. martinii* Bailey, *C. maxima*, *C. mixta*, *C. moschata*, *C. okeechobeensis*, *C. palmeri*, *C. pedatifolia*, *C. pepo*, *C. sororia*, *C. texana* (Cucurbitaceae); *Agropyron cristatum* (L.) P. Gaertn., *Coix lacryma-jobi* L., *Elymus canadensis* L., *E. trachycaulis* (Link) Gould ex Shinners, *Eragrostis curvula* (Schrad.) Nees, *E. trichodes* (Nutt.) A. Wood, *Hordeum vulgare* L., *Oryza sativa* L., *Panicum miliaceum* L., *Pascopyrum smithii* (Rydb.) A. Löve, *Secale cereale* L., *Setaria faberi* Herrm., *S. lutescens* (Weigel) Hubb. [*S. glauca* (L.) Beauv.], *S. italica* (L.) P. Beauv., *S. viridis* (L.) Beauv., *Thinopyrum intermedium* (Host) Barkworth & D. R. Dewey, *Elymus elongatus* (Host) Runemark [*T. ponticum* (Podp.) Z.-W. Liu & R.-C. Wang], *Tripsacum australe* Cutl. & Anders., *T. floridanum* T. C. Porter ex Vasey, *T. latifolium* A. Hitchc., *T. laxum* Nash, *Triticum aestivum* L., *T. spelta* L., *Zea diploperennis* Iltis, Doeblay, & R. Guzmán, *Z. mexicana* (Schrad.) Kuntze, *Z. perennis* (A. Hitchc.) Reeves & Mangelsdorf (Poaceae); apple [*Malus sylvestris*] (Rosaceae); and potato [*Solanum tuberosum* L.] (Solanaceae) (Branson, 1971; Branson & Krysan, 1981; Branson & Ortman (1967a, 1967b, 1970; Branson & Reyes Rueda, 1983; Chiang, 1973; Eben *et al.*, 1997a; T. B. Johnson *et al.*, 1984; George & Hintz, 1966; George & Ortman, 1965; Metcalf & Rhodes, 1990; Metcalf *et al.*, 1982).

Beyond green plants, adults of *D. virgifera* have been observed to ingest fungi, including spores, of *Alternaria*, *Helminthosporium*, and *Ustilago* (Chittenden, 1905a; Ludwig & Hill, 1975).

The subspecies *D. v. zae* Krysan & Smith, occurring from Oklahoma to Central America, is not only a pest of *Zea mays* (Poaceae), but it has also been reported in association with *Sagittaria* (Alismataceae); *Amaranthus* (Amaranthaceae); *Rhus glabra* L., *Toxicodendron radicans* (L.) Kuntze (Anacardiaceae); *Apiaceae* (genus not specified); *Ilex* (Aquifoliaceae); *Ambrosia*, *Aster*, *Bidens*, *Cirsium*, *Helianthus annuus*, *Iva*, *Parthenium*, *Thelesperma* (Asteraceae); *Betula* (Betulaceae); *Catalpa speciosa* (Warder) Warder ex Engelm. (Bignoniaceae); *Cannabis sativa* L. (Cannabaceae); *Viburnum* (Caprifoliaceae); *Caryophyllaceae* (genus not specified); *Commelina* (Commelinaceae); *Cucurbita foetidissima*, *C. pepo*, *Sicyos* (Cucurbitaceae); *Juni-perus* (Cupressaceae); *Cyperus macrocephalus* Liebm. [*C. odoratus* L.] (Cyperaceae); *Diospyros* (Ebenaceae); *Euphorbia* (Euphorbiaceae); *Amorpha*, *Chamaecrista*, *Glycine max*, *Medicago arabica* (L.) Huds., *M. sativa*, *Mimosa strigillosa* J. Torr. & A. Gray, *Neptunia*, *Prosopis glandulosa* J. Torr., *Senna*, *Sesbania*, *Trifolium* (Fabaceae); *Quercus* (Fagaceae); *Carya illinoensis* (Wang.) K. Koch (Juglandaceae); *Magnolia* (Magnoliaceae); *Callirhoë*, *Gossypium hirsutum* L., *Sphaeralcea* (Malvaceae); *Menispermum canadense* L. (Menispermaceae); *Morus microphylla* Buckl. (Moraceae); *Fraxinus pennsylvanica* Marsh. (Oleaceae); *Gaura* (Onagraceae); *Oxalis* (Oxalidaceae); *Proboscidea* (Pedaliaceae); *Pinus* (Pinaceae); *Brachiaria plantaginea* (Link) A. Hitchc., *Digitaria ciliaris* (Retz.) Koel., *Eleusine indica* (L.) Gaertn., *Eragrostis mexicana* (Hornem.) Link, *Panicum hallii* Vasey, sorghum [*Sorghum*], *Zea diploperennis* (Poaceae); *Rumex* (Polygonaceae); *Ceanothus americanus* L. (Rhamnaceae); *Rubus* (Rosaceae); *Cephalanthus occidentalis* L. (Rubiaceae); *Zanthoxylum clava-herculis* L. (Rutaceae); *Salix nigra* Marsh. (Salicaceae); *Sideroxylon* (Sapotaceae); *Castilleja* (Scrophulariaceae); *Solanum* (Solanaceae); *Tamarix* (Tamaricaceae); *Typha angustifolia* L., *T. latifolia* L. (Typhaceae); *Celtis laevigata* Willd., *Ulmus crassifolia* Nutt. (Ulmaceae); *Urtica* (Urticaceae); *Verbena* (Verbenaceae); *Ampelopsis arborea* (L.) Koehne, *Parthenocissus quinquefolia* (L.) Planch., and *Vitis* (Vitaceae) (Branson & Krysan, 1981; Branson *et al.*, 1982; Eben & Barbercheck, 1996; Jones & Coppedge, 2000; Krysan, 1999; Krysan & Smith, 1987; Krysan & Branson, 1983; Krysan & Reyes Rueda, 1983; Krysan *et al.*, 1980; Maes & Staines, 1991; McDonald, 1989; Ríos-Rosillo & Romero-Parra, 1982;

Yaro & Krysan, 1986). Many of these associations involved floral parts rather than foliage.

***Diachus aeruginosus* LeConte.** Wickham (1902) recorded this species eating the fruit of strawberry [*Fragaria*] (Rosaceae).

***Diachus auratus* (Fabricius).** This species, including populations outside of the United States and Canada, has been reported from *Daucus carota* L. (Apiaceae); *Achillea millefolium* L., *Ambrosia acanthicarpa* Hook., *A. chamissonis* (Less.) Greene, *A. confertiflora* DC., *Artemisia californica* Less., *Aster*, *Baccharis halimifolia* L., *B. neglecta* Britt., *B. pilularis* DC., *Bidens pilosa* L., *Carduus nutans* L., mum [*Chrysanthemum* or a similar genus], *Cirsium arvense* (L.) Scop., calliopsis [*Coreopsis*], *Doellingeria umbellata* (Mill.) Nees, *Ericameria ericoides* (Less.) Jeps., *Gutierrezia sarothrae* (Pursh) N. L. Britt. & Rusby, *Helianthus annuus* L., *Heterotheca*, *Parthenium hysterophorus* L., *Solidago altissima* L., *S. canadensis* L. (Asteraceae); *Lepidium virginicum* L. (Brassicaceae); *Sambucus canadensis* L. (Caprifoliaceae); *Cornus alternifolia* L. f. (Cornaceae); dwarf huckleberry [*Gaylussacia dumosa* (Andr.) Torr. & Gray] (Ericaceae); *Amorpha fruticosa* L., *Cercis canadensis* L., *Delonix regia* (Boj. ex Hook.) Raf., *Desmodium*, soybean [*Glycine max* (L.) Merr.], *Lespedeza*, *Leucaena glauca* Benth., alfalfa [*Medicago sativa* L.], *Prosopis*, *Racosperma koa* (A. Gray) Pedley, red clover [*Trifolium pratense* L.] (Fabaceae); oak [*Quercus*] (Fagaceae); hickory [*Carya*] (Juglandaceae); *Persea americana* Mill. (Lauraceae); evening primrose [*Oenothera*] (Onagraceae); grass [Poaceae]; *Eriogonum fasciculatum* Benth., “*Eriogonum paniculatum*” (Polygonaceae); *Ceanothus integerrimus* Hook. & Arn. (Rhamnaceae); *Fragaria*, apple [*Malus sylvestris* P. Mill.], *Osteomeles anthyllidifolia* (Sm.) Lindl., *Prunus domestica* L., rose [*Rosa*], *Rubus*, *Spiraea latifolia* (Ait.) Borkh. [*S. alba* var. *latifolia* (Ait.) Dippel], *S. salicifolia* L. (Rosaceae); Rubiaceae (genus not specified); *Salix discolor* Muhl., *S. petiolaris* J. E. Sm. (Salicaceae); *Sapindus drummondii* Hook. & Arn. (Sapindaceae); *Ampelopsis* and *Vitis rotundifolia* Michx. (Vitaceae) (Andrews, 1923; Anonymous, 1962d, 1966o; Arnett, 1985; Au, 1966; Balsbaugh & Hays, 1972; Batra *et al.*, 1981; Beller & Hatch, 1932; Blackman, 1918; Blatchley, 1924a; Burke *et al.*, 1974; Carr, 1988; Chagnon, 1917; Cleveland & Hamilton, 1959; Dickason, 1952; Downie & Arnett, 1996; Ebeling, 1959; Essig, 1958; Flowers *et al.*, 1994; Foster *et al.*, 1981; Fullaway & Krauss, 1945; Goeden & Ricker, 1974a, 1974b, 1975, 1976c; Gourvès & Samuelson, 1979; Hatch, 1924a, 1971; Henderson, 1967; Jolivet, 2001; Kirk, 1969, 1970; Kirk & Balsbaugh, 1975; Knowlton, 1957b; Lago & Mann, 1987; Lee, 1949; Lovell, 1915; McClay *et al.*, 1995; McGiffin & Neunzig, 1985; Morihara & Balsbaugh, 1976; Needham, 1948; Palmer, 1987; Palmer & Bennett, 1988; Reid, 1988; Rogers, 1988; Rouse & Medvedev, 1972; Story *et al.*, 1985; Sweet, 1930; Swezey, 1915; Tilden, 1951; Ward *et al.*, 1977; Webster, 1881; Wilcox, 1954, 1979; Williams, 1988c; Wolcott & Montgomery, 1933; Wood & Knowlton, 1949).

Ebeling (1959) reported damage by this beetle species to avocado [*Persea americana*] (Lauraceae). However, the illustration he provided was of a flea beetle rather than of *D. auratus*. Beyond these reports, Goeden & Ricker (1974a, 1976c) reported that “*Diachus auratus* (F.) or nr.” was found commonly on *Ambrosia psilostachya* DC. Capizzi (1958c) recorded “a flea beetle (probably *Diachus auratus*)” from crimson clover [*Trifolium incarnatum* L.] (Fabaceae). Boiteau (1983a) included *D. auratus* in a list of insects collected from potato fields [*Solanum tuberosum* L.] (Solanaceae), but this should not necessarily be interpreted as a host association.

Records maintained by the USDA-ARS Grassland, Soil and Water Research Laboratory state that adults have been collected in New Mexico and Texas from *Baccharis salicifolia* (Ruíz & Pav.) Pers., *Gutierrezia dracunculoides* (DC.) Hoffm. (Asteraceae); *Acacia farnesiana* (L.) Willd. [a Texas record, therefore probably *A. smallii* Isley] and *Prosopis glandulosa* J. Torr. (Fabaceae) (Thomas O. Robbins, pers. comm.).

***Diachus catarius* (Suffrian).** Chagnon (1917) reported this species from willow [*Salix*] (Salicaceae).

***Diachus chlorizans* (Suffrian).** This species has been associated with *Rhus copallina* L. (Anacardiaceae) (Balsbaugh & Hays, 1972; Flowers *et al.*, 1994; Furth, 1985; Peck & Thomas, 1998; Riley & Enns, 1979; Wilcox, 1979). Additionally, it has been collected by beating *Gleditsia triacanthos* L. (Fabaceae) (Riley & Enns, 1979). In previously unpublished investigations, we have collected an adult from *Rhus aromatica* Ait. (Anacardiaceae) in Missouri and many adults from *Leucaena pulverulenta* (Schlecht.) Benth. (Fabaceae) in southern Texas.

***Diachus erasus* LeConte.** This species has been reported from *Ceanothus* (Rhamnaceae) (Carr, 1988). In previously unpublished investigations, we have seen a specimen labeled from California in association with *Ceanothus velutinus* Dougl. ex Hook. Additionally, we have collected a small series from *Salix* (Salicaceae) in California.

***Diachus squalens* (Suffrian).** This species has been collected by beating wax myrtle [*Myrica*] (Myricaceae) (Blatchley, 1924a).

***Dibolia borealis* Chevrolat.** These insects, including the leaf-mining larvae, feed on species of *Plantago* (Plantaginaceae), with specific records for *P. lanceolata* L., *P. major* L., and *P. rugelii* Decne. (Balsbaugh & Hays, 1972; Beutenmüller, 1890a; Blatchley, 1910; Burgess, 1979; Chagnon, 1938; Chagnon & Robert,

1962; Clark, 2000; Dearborn & Donahue, 1993; Dillon & Dillon, 1961; Downie & Arnett, 1996; Duckett, 1920; Frost, 1924, 1942; Hallock, 1939; Hamilton, 1895; Hatch, 1971; Hawthorn, 1978; Kirk & Balsbaugh, 1975; Lawson, 1991; LeSage *et al.*, 1994; Lintner, 1895; McDaniel *et al.*, 1992; Needham *et al.*, 1928; Parry, 1974; Peterson, 1960; Proctor, 1938, 1946; Reed, 1927; Riley & Enns, 1979; Rolfs, 1891; Scudder, 1878; Smith, 1900, 1910a; Stirrett, 1924, 1935; Ulke, 1903; Wilcox, 1954, 1979). In previously unpublished investigations in central Texas, we have collected the “southern form” of this species (*sensu* Parry, 1974) from *P. aristata* Michx. and *P. patagonica* Jacq.

This beetle species has also been reported from *Chelone* (Scrophulariaceae) (Pasteels *et al.*, 1988), but this may also have been based on misidentification of *Dibolia chelones* Parry. Similarly, *D. borealis* has been recorded in association with *Brassica rapa* L. (Brassicaceae) (Beutenmüller, 1890a; Comstock, 1880; Lintner, 1895; Smith, 1900, 1910a; Stirrett, 1924), but such reports were likely based on misidentified insects.

Beyond these records, *D. borealis* has been recorded from *Impatiens fulva* Nutt. [*I. biflora* Willd.] (Balsaminaceae); sugar beet [*Beta vulgaris* L.] (Chenopodiaceae); *Cercis canadensis* L., alfalfa [*Medicago sativa* L.] (Fabaceae), *Trifolium pratense* L. (Fabaceae); fir [*Abies*] (Pinaceae); grass [Poaceae]; *Chamaebatiaria millefolium* (Torr.) Maxim., *Crataegus*, apple [*Malus sylvestris* P. Mill.] (Rosaceae); poplar [*Populus*] (Salicaceae); and tobacco [*Nicotiana*] (Solanaceae) (Dearborn & Donahue, 1993; Douglass, 1929; Hallock, 1939; Horning & Barr, 1970; Kirk, 1970; Lee, 1949; Lintner, 1895; Niemczyk & Guyer, 1963; Osborn, 1891; Proctor, 1938, 1946; Stirrett, 1924, 1935; Wellhouse, 1922). However, these are not normal hosts. Also, Webster (1881) included this beetle species in a list of chrysomelids observed on either *Salix discolor* Muhl. or *S. petiolaris* J. E. Sm. (Salicaceae), but this occurrence was probably adventitious. Boiteau (1983a) included *D. borealis* in a list of insects collected from potato fields [*Solanum tuberosum* L.] (Solanaceae), but this should not be interpreted as a host association.

Additionally, *D. borealis* has been reported hibernating beneath loose bark of sycamore [*Platanus*] (Platanaceae) (Burgess, 1979; Dillon & Dillon, 1961; Wilcox, 1954), but this is probably not a food plant. Howden & Vogt (1951) recorded *D. borealis* from under bark of *Pinus virginiana* P. Mill. (Pinaceae), but they considered this to be a “chance hibernation.”

***Dibolia californica* Parry.** In previously unpublished observations in California, we have collected a very large series from *Keckiella breviflora* var. *glabrisepala* (Keck) N. Holmgren (Scrophulariaceae). The plants exhibited extensive feeding damage. Also from California, we have seen short series from *Penstemon cordifolius* Benth. and *Scrophularia californica* Cham. & Schlecht. (Scrophulariaceae).

***Dibolia catherinia* Mignot.** This species has been collected from *Penstemon* (Scrophulariaceae) (Mignot, 1971a; Parry, 1974).

***Dibolia chelones* Parry.** This species has been associated with *Chelone glabra* L. (Scrophulariaceae) (Clark, 2000; Parry, 1974; Wilcox, 1979).

***Dibolia melampyri* Parry.** This species has been associated with *Melampyrum lineare* Desr. (Scrophulariaceae) (Parry, 1974; Wilcox, 1979). In previously unpublished investigations, we have seen material labeled from Ontario in association with *M. americanum* Michx.

This beetle species has also been collected by sweeping vegetation that included *Kalmia*, *Vaccinium* (Ericaceae); and *Comptonia* (Myricaceae) (Parry, 1974). However, sweeping records should not necessarily be interpreted as host associations.

***Dibolia penstemonis* Parry.** This species has been reported from *Penstemon scouleri* Lindl. (Scrophulariaceae) (Carr, 1988; Parry, 1974). It has also been reported from *P. ellipticus* Coult. & Fisch. and *P. fruticosus* (Pursh) Greene (Carr, 1988; Parry, 1974), but the identification of the plants was uncertain.

***Dibolia reyheria* Mignot.** This species, including series, has been collected from *Penstemon* (Scrophulariaceae) (Parry, 1974).

***Dibolia sinuata* Horn.** In previously unpublished field work, we have associated this species with *Dasistoma macrophylla* (Nutt.) Raf. (Scrophulariaceae) in Illinois and Missouri.

***Diorhabda elongata* Brullé.** Hosts are species of *Tamarix* (Tamaricaceae), this species having been recorded in association with *T. aphylla* (L.) Karst., *T. gallica* L., and *T. ramosissima* Ledeb. (Anonymous, 2001c; Boldt, 1996; Campobasso *et al.*, 1999; Chen, 1961; Holloway, 1954; Jolivet, 2001; Lopatin, 1984; Riley *et al.*, 2002; Stelljes & Wood, 2000; Vail *et al.*, 2001; White, 1996b).

***Diplacaspis prosternalis* (Schaeffer).** This species, including populations in Mexico, has been recorded from *Gaillardia* (Asteraceae); “*Suaeda*?” (Chenopodiaceae); *Acacia farnesiana* (L.) Willd. [probably *A. smallii* Isley, rather than true *A. farnesiana*], *A. greggii* A. Gray, and *Apios tuberosa* Moench [*Apios americana* Medik.] (Fabaceae) (Karren, 1972; Moldenke, 1971). We have personally collected adults of a coppery colored form from *Prosopis reptans* Benth. (Fabaceae) along the coast of southern Texas. At inland localities of southern Texas, we have collected a dark brownish form from *Acacia rigidula* Benth. (Fabaceae).

***Disonycha admirabila* Blatchley.** This species has been reported from *Chamaecrista fasciculata*

(Michx.) Greene, *Schrankia uncinata* Willd. (Fabaceae); broomsedge [*Andropogon virginicus* L.] (Poaceae); *Polygonum* (Polygonaceae); and peach [*Prunus persica* (L.) Batsch] (Rosaceae) (Balsbaugh & Hays, 1972; Blake, 1933a; Blatchley, 1924b; Downie & Arnett, 1996; Kirk, 1969, 1970; Mignot, 1970; Riley & Enns, 1979, 1982; Wheeler, 1989; Wilcox, 1954, 1979).

***Disonycha alabamae* Schaeffer.** This species, both adults and larvae, has been associated with *Phlox drummondii* Hook. (Polemoniaceae) (Leverich, 1979). It has also been reported from *Talinum teretifolium* Pursh (Portulacaceae) (Balsbaugh & Hays, 1972; Clark, 2000; Wilcox, 1979).

***Disonycha alternata* (Illiger).** Hosts are species of *Salix* (Salicaceae), beetles having been reported from *S. bebbiana* Sarg., *S. interior* Rowlee [*S. exigua* ssp. *interior* (Rowlee) Cronquist], *S. fragilis* L., *S. humilis* Marsh., and *S. longifolia* Lam. (Balsbaugh, 1967; Balsbaugh & Hays, 1972; Bechtel, 1963; Blake, 1933a; Carr, 1988; Clark, 2000; Dearborn & Donahue, 1993; DeSwarte & Balsbaugh, 1973; Downie, 1957; Downie & Arnett, 1996; Flowers *et al.*, 1994; Hatch, 1971; Ives & Wong, 1988; Kirk & Balsbaugh, 1975; Knowlton, 1955c, 1957a; Kumar *et al.*, 1976; Lawson, 1991; Lindroth, 1971; Löding, 1945; McDaniel *et al.*, 1992; Mignot, 1970; Packard, 1890; Peck & Thomas, 1998; Riley & Enns, 1979; Walsh, 1864; Wheeler, 1989; Wilcox, 1954, 1979). This beetle species has also been recorded from *Populus sargentii* Dode (Salicaceae) (Kumar *et al.*, 1976).

Beyond Salicaceae, *D. alternata* has been reported from parsnip [*Pastinaca sativa* L.] (Apiaceae); goldenrod [*Solidago*] (Asteraceae); *Sambucus* (Caprifoliaceae); cotton [*Gossypium*] (Malvaceae); *Prunus maritima* H. Marsh., pear [*Pyrus*] (Rosaceae); and *Solanum elaeagnifolium* Cav. (Solanaceae) (Balsbaugh, 1967; Carr, 1988; Goeden, 1971a; Mignot, 1970; Walsh, 1864). However, these associations were probably either incidental or based on misidentification.

Various workers have reported host associations for *Disonycha quinquevittata* (Say). However, true identity of *Altica quinquevittata* Say is uncertain. This insect is thought to be a *Disonycha* and possibly synonymous with *D. alternata*, but the type specimen is apparently lost. Unsurprisingly, *D. quinquevittata* has been reported from Salicaceae, including quaking asp [*Populus tremuloides* Michx.], poplar [*Populus*], *Salix interior* [*S. exigua* ssp. *interior*], *S. fluviatilis* Nutt., and *S. longifolia* (Blatchley, 1910; Bruner, 1890; Douglass, 1929; Duckett, 1920; Essig, 1958; Fall, 1901; Jaques, 1951; Knab, 1909b; Ortenburger & Hatch, 1926; Proctor, 1938, 1946; Schwarz, 1893; Scott, 1908; Smith, 1910a; Stirrett, 1924; Tanner, 1928; Wickham, 1902). Beetles have also been recorded from *Carduus spinosissimus* Walt. [*Cirsium horridulum* Michx.], *Solidago squarrosa* Muhl. (Asteraceae); *Catalpa* (Bignoniaceae); purslane [*Portulaca*] (Portulacaceae); plum [*Prunus*] and rose [*Rosa*] (Rosaceae) (Abdullah & Qureshi, 1969; Douglass, 1929; Duckett, 1920; Knowlton, 1930; Rosewall, 1922; Stirrett, 1924; Whitehead, 1919). However, these plants seem unlikely hosts for *D. alternata*. Blake (1933a) indicated that recorded associations of *D. quinquevittata* with *Sambucus* (Caprifoliaceae) were likely based on beetles feeding on willow [*Salix*] that were found in close proximity to *Sambucus*.

***Disonycha antennata* Jacoby.** Beetles belonging to this species have been intercepted in “banana trash” [*Musa*] (Musaceae) from Latin America (Blake, 1955a). However, this may not indicate a true host. Mignot (1970) reported the host to be banana [*Musa*], but this may have been based simply on Blake’s publication.

***Disonycha arizonae* Casey.** This species has been reported from *Helianthus* (Asteraceae); *Salsola pestifer* A. Nelson [*S. kali* L.] (Chenopodiaceae); *Pinus taeda* L. (Pinaceae); *Prunus pumila* L. (Rosaceae); and *Solanum tuberosum* L. (Solanaceae) (Balsbaugh & Hays, 1972; Blake, 1933a; Clark, 2000; Downie & Arnett, 1996; Mignot, 1970). In previously unpublished investigations, we have seen material labeled from Arizona in association with *Baccharis* (Asteraceae).

This beetle species has also been intercepted in shipments of purslane [*Portulaca*] (Portulacaceae), *Selaginella* (Selaginellaceae), and vegetables from Mexico (Blake, 1955a). However, these plants may not be true hosts.

***Disonycha balsbaughi* Blake.** We have collected adults of this species, and larvae presumably belonging to this species, from *Hypericum hypericoides* (L.) Crantz (Clusiaceae) in Louisiana.

***Disonycha barberi* Blake.** This species has been reared from *Phaulothamnus spinescens* A. Gray (Phytolaccaceae), and it has also been collected from corn foliage [*Zea mays* L.] (Poaceae) and *Condalia obovata* Hook. [*C. hookeri* M. C. Johnston] (Rhamnaceae) (Blake, 1951, 1955a; Mignot, 1970).

***Disonycha caroliniana* (Fabricius).** This species has been reported from *Sambucus* (Caprifoliaceae), beet [*Beta vulgaris* L.] (Chenopodiaceae), *Hypericum* (Clusiaceae), cantaloupe [*Cucumis melo* L.] (Cucurbitaceae), fetterbush [*Andromeda*, *Lyonia*, *Pieris*, or a similar genus] (Ericaceae), *Pinus taeda* L. (Pinaceae), sugarcane [*Saccharum officinarum* L.] (Poaceae), *Rumex verticillatus* L. (Polygonaceae), *Portulaca oleracea* L. (Portulacaceae), plum [*Prunus*] (Rosaceae), and *Salix exigua* Nutt. (Salicaceae) (Abdullah & Qureshi, 1969; Blatchley, 1923, 1924a; Carr, 1988; Chittenden, 1898d; Douglass, 1929; Duckett, 1920; Felt, 1907, 1930; Harrington, 1884; Herrick, 1935; Kirk, 1970; Mignot, 1970; Morris, 1914a, 1914b; Schwarz, 1893; Smith, 1900, 1910a; Stirrett, 1924; Whelan, 1936; Wilcox, 1979). However, some of these records predate

the taxonomic treatment of Blake (1933a), and the true identity of the beetles involved is therefore uncertain.

Wray & Brimley (1943) reported a specimen of *D. caroliniana* from *Sarracenia flava* L. (Sarraceniaceae). However, this was probably an instance in which the insect was prey rather than an herbivore.

Blake (1933a) questioned the report of Fabricius (1801) of the food plant being *Amaranthus spinosus* L. (Amaranthaceae). She suspected that confusion between *D. caroliniana* and *D. glabrata* (Fabricius) occurred in the time of Fabricius. Also, *D. caroliniana* is reported to feed on the leaves of *Chloracantha spinosa* (Benth.) Nesom (Asteraceae) (Brisley, 1925; Carr, 1988), but, according to Blake (1933a), this association was based on misidentified specimens of *D. fumata* (LeConte).

In previously unpublished investigations, we have collected adults of *D. caroliniana*, and larvae presumably belonging to this species, from *Hypericum hypericoides* (L.) Crantz (Clusiaceae) in Louisiana. Records maintained by the USDA-ARS Grassland, Soil and Water Research Laboratory state that an adult has been collected in Zapata County, Texas by sweeping foliage of *Baccharis neglecta* Britt. (Asteraceae) (Thomas O. Robbins, pers. comm.).

***Disonycha collata* (Fabricius).** This species, sometimes cited as *D. collaris*, and sometimes cited as *D. mellicollis* (Say) although the true identity of this name is uncertain, has been recorded from *Trianthema portulacastrum* L. (Aizoaceae); *Alternanthera bettzickiana* Nich., *A. obovata* (M. Martens & Galeotti) Millsp., *A. philoxeroides* (Mart.) Griseb., *A. pungens* Kunth in H. B. K., *A. sessilis* (L.) DC., *Amaranthus berlandieri* (Moq.) Uline & W. I. Bray, *A. retroflexus* L., *A. spinosus* L., *Iresine diffusa* Humb. & Bonpl. ex Willd., *Telanthra* (Amaranthaceae); celery [*Apium*] (Apiaceae); *Helianthus tuberosus* L., *Lactuca sativa* L. (Asteraceae); cabbage [*Brassica oleracea* L.], *Brassica rapa* L. (Brassicaceae); *Stellaria media* (L.) Vill. (Caryophyllaceae); *Beta vulgaris* L., *Chenopodium album* L., *Spinacia oleracea* L. (Chenopodiaceae); *Glycine max* (L.) Merr., *Medicago sativa* L., *Phaseolus vulgaris* L., red clover [*Trifolium pratense* L.] (Fabaceae); *Passiflora pittieri* Masters (Passifloraceae); *Zea mays* L. (Poaceae); *Portulaca oleracea* L., *P. retusa* Engelm. (Portulacaceae); strawberry [*Fragaria*] (Rosaceae); potato [*Solanum tuberosum* L.] (Solanaceae); *Camellia sinensis* (L.) Kuntze (Theaceae); and grape [*Vitis*] (Vitaceae) (Abdullah & Qureshi, 1969; Balsbaugh & Hays, 1972; Balsbaugh *et al.*, 1981; Bechyné, 1997a, 1997b; Beutenmüller, 1890a; Blake, 1933a; Brigham, 1982; Chittenden, 1912a; Chittenden & Marsh, 1909; Crosby & Leonard, 1918; Downie & Arnett, 1996; Duckett, 1920, 1989; Felt, 1902a; Mignot, 1970; Murtfeldt, 1890; Pallister, 1953; Popenoe, 1877; Riley & Enns, 1979; Stirrett, 1924; Vogt & Cordo, 1976; Vogt *et al.*, 1979; Wilcox, 1954, 1979). Additionally, Webster (1881) included *D. collaris* in a list of chrysomelids observed on either *Salix discolor* Muhl. or *S. petiolaris* J. E. Sm. (Salicaceae). Beyond these reports, Moreno & Bibby (1943) reported “*Disonycha collata* (F.) (?)” from *Gossypium hirsutum* L. (Malvaceae). In laboratory tests, *D. collata* has fed on leaves of cotton [*Gossypium*] (Malvaceae), but without doing much damage (Folsom, 1936b).

Blatchley (1924a) stated that *D. collata* occurred between the roots of grass [Poaceae]. Earlier (Blatchley, 1896), he reported overwintering beetles from beneath leaves of mullein [*Verbascum*] (Scrophulariaceae). However, in neither case did he suggest a food plant relationship.

Of the above-mentioned plants, those in the Amaranthaceae, Caryophyllaceae, Chenopodiaceae, and Portulacaceae are likely true hosts. At least most of the reported associations involving other families are probably based on incidental occurrences.

***Disonycha conjugata* (Fabricius).** Hosts are species of *Polygonum* (Polygonaceae), including *P. punctatum* Elliott (Blake, 1930, 1933a; Blatchley, 1924a; Flowers *et al.*, 1994; Mignot, 1970; Peck & Thomas, 1998; Takizawa, 2003). Additionally, this beetle species has been recorded from *Iresine diffusa* Humb. & Bonpl. ex Willd. (Amaranthaceae), *Baccharis halimifolia* L. (Asteraceae), and gladiolus [*Gladiolus*] (Iridaceae) (Kelsheimer, 1956; Palmer & Bennett, 1988; Vogt *et al.*, 1979), but these occurrences were likely incidental. Beyond this, *D. conjugata* has been found beneath decaying stems of pickerelweed [*Pontederia*] (Pontederiaceae) (Blatchley, 1924a), but the beetles probably do not feed on this plant.

***Disonycha discoidea* (Fabricius).** This species is reported to feed on *Passiflora incarnata* L. and *P. lutea* L. (Passifloraceae) (Balsbaugh & Hays, 1972; Blake, 1933a, 1955a; Downie & Arnett, 1996; Flowers *et al.*, 1994; Kirk, 1970; Mignot, 1970; Peck & Thomas, 1998; Riley & Enns, 1979; Watts, 1990; Wilcox, 1954, 1979). It is also reported to feed on *Euonymus atropurpureus* Jacq. (Celastraceae) (Riley & Enns, 1979). In our previously unpublished investigations in Missouri, we have found adults on all three of these plants, and we have uncovered evidence that two similar species, one probably undescribed, are involved. Captive beetles from *P. lutea* fed readily on this plant but would not accept *E. atropurpureus*. On the other hand, captive beetles from *E. atropurpureus* fed readily on this plant but would not accept *P. lutea*. In lateral view, the discal elytral dark marking of *Passiflora* feeders occupies about half of the distance from the external margin to the suture. In *Euonymus* feeders, the dark marking occupies well over half of this distance. In Illinois, we have found an adult of the vittate “*abbreviata*” form on *Euonymus obovatus* Nutt., and the captive beetle oviposited and fed on a leaf of this plant.

Blatchley (1924a) reported *D. abbreviata* Melsheimer, a synonym of *D. discoidea*, from goldenrod [*Solidago*] (Asteraceae), but he acknowledged that this association might have been based on misidentified beetles. Additionally, *D. discoidea* has been reported from *Amaranthus retroflexus* L., *A. spinosus* L. (Amaranthaceae); carrot [*Daucus carota* L.], parsley [*Petroselinum crispum* (Mill.) Nyman ex A. W. Hill] (Apiaceae); dandelion [*Taraxacum*], zinnia [*Zinnia*] (Asteraceae); turnip [*Brassica rapa* L.], mustard [*Brassica* or a similar genus] (Brassicaceae); beet [*Beta vulgaris* L.], spinach [*Spinacia oleracea* L.] (Chenopodiaceae); squash [*Cucurbita*] (Cucurbitaceae); juniper [*Juniperus*] (Cupressaceae); bean [likely *Phaseolus vulgaris* L.], pea [likely *Pisum sativum* L.] (Fabaceae); wild hydrangea [*Hydrangea*] (Hydrangeaceae); corn [*Zea mays* L.] (Poaceae); *Prunus* (Rosaceae); potato [*Solanum tuberosum* L.] (Solanaceae); and *Elaeagnus* (Thymelaeaceae) (Blatchley, 1910; Chittenden, 1912a; Chittenden & Marsh, 1909; Mignot, 1970; Stirrett, 1924). However these records may also have been based on misidentification or incidental occurrences.

Beyond these records, Blatchley (1896) recorded overwintering beetles from beneath leaves of mullein [*Verbascum*] (Scrophulariaceae), but he did not suggest a food plant relationship. Similarly, Townsend (1902) reported a specimen hibernating in earth around roots of cotton [*Gossypium*] (Malvaceae), but he did not indicate feeding. Wray & Brimley (1943) reported beetles from *Sarracenia flava* L. (Sarraceniaceae), but this was probably an instance in which the insects were prey rather than herbivores.

Domínguez & Carrillo (1976) recorded “*Disonycha abbreviata*” from “calabaza” [*Cucurbita*] (Cucurbitaceae), “frijol” [likely *Phaseolus vulgaris*] (Fabaceae), “algodón” [*Gossypium*] (Malvaceae), “ajonjolí” [*Sesamum indicum* L.] (Pedaliaceae), and “maíz” [*Zea mays*] (Poaceae). However, their observations were made in Mexico and were likely based on misidentified beetles.

***Disonycha figurata* Jacoby.** In Mexico, this species has been collected from *Eupatorium adenophorum* Spreng. (Asteraceae) and “frijol” [likely *Phaseolus vulgaris* L.] (Fabaceae) (Blake, 1955a; Domínguez & Carrillo, 1976). In Costa Rica, it has been collected from *Crotalaria mucronata* Desv. [*C. pallida* Aiton] (Fabaceae) (Blake, 1955a). Beyond these reports, Kumar *et al.* (1976) recorded “*Disonycha figurata* Jacoby or near” from blossoms of *Gutierrezia sarothrae* (Pursh) N. L. Britt. & Rusby (Asteraceae).

***Disonycha fumata* (LeConte).** In the United States, the food plant is reported to be *Aster* (Asteraceae) (Blake, 1933a; Mignot, 1970). According to Blake (1933a) the adults of “*Disonycha carolina* Fabricius” that Brisley (1925) reported feeding on leaves of *Chloracantha spinosa* (Benth.) Nesom (Asteraceae) in Arizona were in actuality misidentified specimens of *D. fumata*. Until recently, *C. spinosa* was placed in the genus *Aster*. Additionally, *D. fumata* has been reported from *Solidago* (Asteraceae) and sweet potato [*Ipomoea batatas* (L.) Lam.] (Convolvulaceae) (Mignot, 1970). However, at least the occurrence on *Ipomoea* was likely incidental.

In previously unpublished field work conducted in Texas, we have collected adults of the subspecies *D. f. fumata* from *Bebbia juncea* (Benth.) E. L. Greene and *Chloracantha spinosa* (Asteraceae). In central Louisiana, we have collected a large series of adults of this subspecies from *Boltonia diffusa* Ell. (Asteraceae).

Beyond this, “*D. crenicollis* (Say)” has been recorded from *Beta vulgaris* L. (Chenopodiaceae); melon [likely *Citrullus lanatus* (Thunb.) Matsum. & Nakai or *Cucumis melo* L.] (Cucurbitaceae); prairie clover [*Dalea* or *Trifolium*], alfalfa [*Medicago sativa* L.], clover [likely *Trifolium*] (Fabaceae); and *Fragaria chiloensis* (L.) Duchn. (Rosaceae) (Bruner, 1891a, 1891b; Crosby & Leonard, 1918; Douglass, 1929; Forbes & Hart, 1900; Stirrett, 1924). These associations may have been based on *D. fumata*, but, if so, they were likely incidental.

In Central America, *D. fumata* has been reported from *Baltimora* (Asteraceae); *Jacaranda* (Bignoniaceae); *Brassica* (Brassicaceae); *Indigofera*, *Phaseolus*, *Vigna* (Fabaceae); *Gossypium*, *Sida* (Malvaceae); *Boerhavia* (Nyctaginaceae); *Sorghum*, *Zea* (Poaceae); and *Lycopersicon* (Solanaceae) (Blake, 1955a; Maes & Staines, 1991). Domínguez & Carrillo (1976) recorded “*Disonycha crenicollis*” from Mexico in association with “frijol” [likely *Phaseolus vulgaris* L.] and “trébol blanco” [*Trifolium repens* L.] (Fabaceae).

***Disonycha glabrata* (Fabricius).** This species, including populations in Latin America, is often associated with *Amaranthus* (Amaranthaceae), insects having been recorded from *A. caudatus* L., *A. celosioides* Kunth in H. B. K., *A. cruentus* L., *A. dubius* Mart., *A. retroflexus* L., *A. spinosus* L., *A. tricolor* L., and *A. viridis* L. (Abdullah & Qureshi, 1969; Balduf, 1923; Balsbaugh, 1988; Balsbaugh & Hays, 1972; Balsbaugh *et al.*, 1981; Bechyné, 1997a, 1997b; Blake, 1955a; Blatchley, 1910, 1924a; Brigham, 1982; Cagán *et al.*, 2000; Chittenden, 1922; Clark, 2000; DeSwarte & Balsbaugh, 1973; Dozier, 1918, 1920; Duckett, 1920; Farrier, 1955; Garman, 1891b, 1892; Haddad *et al.*, 1970; Hemenway & Whitcomb, 1968; Jolivet, 2003; Jolivet & Petitpierre, 1980; Julien & Griffiths, 1998; King & Saunders, 1984; Kirk, 1969, 1970; Löding, 1945; Maes & Staines, 1991; Mignot, 1970; Riley & Enns, 1979; Scott, 1908; Smith, 1900, 1910a; Stirrett, 1924; Tisler, 1990; Vogt & Cordo, 1976; Vogt *et al.*, 1979; Wilcox, 1954, 1979). Additionally, Vogt *et al.* (1979) reported that a normal host of *D. glabrata* is *Chamissoa* (Amaranthaceae).

This beetle species has also been reported from maple [*Acer*] (Aceraceae); *Alternanthera philoxeroides*

des (Mart.) Griseb. (Amaranthaceae); *Annona muricata* L. (Annonaceae); ragweed [*Ambrosia*], *Baltimora*, *Carduus spinosissimus* Walt. [*Cirsium horridulum* Michx.], bull thistle [*Cirsium pumilum* (Nutt.) Spreng. or *C. vulgare* (Savi) Tenn.], horseweed [*Conyza canadensis* (L.) Cronq.], *Isocoma*, *Vernonia scabra* Pers. [*Vernonanthura brasiliensis* (L.) H. Rob.] (Asteraceae); *Heliotropium indicum* L. (Boraginaceae); *Cannabis sativa* L. (Cannabaceae); *Beta vulgaris* L. (Chenopodiaceae); sweet potato [*Ipomoea batatas* (L.) Lam.] (Convolvulaceae); *Citrullus vulgaris* Schrad. ex Eckl. & Zeyh. [*C. lanatus* (Thunb.) Matsum. & Nakai], *Cucurbita maxima* Duchn. ex Lam., *C. pepo* L. (Cucurbitaceae); *Ricinus communis* L. (Euphorbiaceae); *Glycine max* (L.) Merr., *Phaseolus lunatus* L., *P. vulgaris* L., *Trifolium incarnatum* L., red clover [*T. pratense* L.], *Vigna sinensis* (L.) Savi ex Hassk. [*V. unguiculata* Clav.], *V. scabra* Sonder [*V. vexillata* var. *vexillata* (L.) A. Rich] (Fabaceae); oak [*Quercus*] (Fagaceae); *Persea americana* Mill. (Lauraceae); tulip tree [*Liriodendron tulipifera* L.] (Magnoliaceae); *Cienfuegosia affinis* (H. B. K.) Kochr., *Gossypium hirsutum* L. (Malvaceae); *Passiflora edulis* Sims., *P. quadrangularis* L. (Passifloraceae); *Sesamum indicum* L. (Pedaliaceae); *Panicum purpurascens* Raddi [*Brachiaria mutica* (Forssk.) Stapf], *Oryza sativa* L., *Saccharum officinarum* L., sorghum [*Sorghum*], *Zea mays* L. (Poaceae); *Citrus aurantium* L. (Rutaceae); *Salix* (Salicaceae); *Capsicum frutescens* var. *groszum* L. H. Bailey [*C. annuum* L.], *Lycopersicon esculentum* Mill., eggplant [*Solanum melongena* L.], *Solanum nigrum* L., and *S. tuberosum* L. (Solanaceae) (Balsbaugh & Hays, 1972; Bechyné, 1997a, 1997b; Bickensstaff & Huggans, 1962; Blake, 1933a, 1955a; Blatchley, 1924a; Brigham, 1982; Downie & Arnett, 1996; Deitz *et al.*, 1976; Dozier, 1918, 1920; Duckett, 1920; Fabricius, 1792, 1801; Fall & Cockerell, 1907; Folsom, 1936b; Haddad *et al.*, 1970; Jackman, 1979d, 1979j, 1979l; Jolivet, 2003; King & Saunders, 1984; Kirk, 1969, 1970; Lago & Stanford, 1989; Maes & Staines, 1991; Mignot, 1970; Passoa, 1983; Rosewall, 1922; Stirrett, 1924; Townsend, 1902; Vogt *et al.*, 1979; Wilcox, 1954, 1979). Beyond these reports, Goeden (1971a) included “*D. glabrata* (F.) or near” in a list of insects collected from *Solanum elaeagnifolium* Cav. None of these plants are likely normal hosts. Carr (1988) reported *D. glabrata* that was received in California on an orchid [Orchidaceae] from Texas, but this was likely not a food plant.

***Disonycha latifrons* Schaeffer.** This species has been reported from white aster [*Aster* or a similar genus], *Chrysanthamnus viscidiflorus* (Hook.) Nutt., *Ericameria nauseosa* (Pall. ex Pursh) Nesom & Baird, *Solidago altissima* L., *S. canadensis* L., *S. squarrosa* Muhl., and *Tetradymia glabrata* A. Gray (Asteraceae) (Blake, 1933a; Carr, 1988; Downie & Arnett, 1996; Furniss & Barr, 1975; Hatch, 1971; Horning & Barr, 1970; Mignot, 1970; Schaeffer, 1924; Wilcox, 1954, 1979). Additionally, Knowlton (1954b) stated that adults and larvae of “*Disonycha* sp., near or actually *latifrons* Schffr.” were extremely numerous and damaging to *Chrysanthamnus* and *Gutierrezia* (Asteraceae).

Beyond this, *D. latifrons* has been recorded from *Salsola kali* L. (Chenopodiaceae); fir [*Abies*], spruce [*Picea*] (Pinaceae); and *Salix bebbiana* Sarg. (Salicaceae) (Dearborn & Donahue, 1993; Hatch, 1971; Schow & Manis, 1962). However, these non-asteraceous occurrences were probably either incidental or based on misidentification.

***Disonycha latiovittata* Hatch.** This species feeds on *Salix* (Salicaceae) (Beller & Hatch, 1932; Blake, 1933a, 1955a; Carr, 1988; Furniss, 1972; Furniss & Barr, 1975; Hatch, 1971; Hatch & Beller, 1932; Mignot, 1970; Moore, 1937). Beyond this, Hilgendorf & Goeden (1983) reported that adults of “*Disonycha* sp. nr. *latiovittata*” occurred occasionally on leaves of *Xanthium strumarium* L. (Asteraceae).

***Disonycha leptolineata* Blatchley.** The host of this species is reported to be *Itea virginica* L. (Grossulariaceae) (Peck & Thomas, 1998; Watts, 1990). In previously unpublished investigations, we have confirmed this association, having collected adults of *D. leptolineata*, and larvae presumably belonging to this species, from this plant species where it was growing in a cypress swamp in southern Louisiana.

Beetles have also been reported from fern [Pteridophyta] and from gladiolus [*Gladiolus*] (Iridaceae) (Blatchley, 1919, 1924a; Kelsheimer, 1956), but these occurrences were likely incidental. Additionally, *D. leptolineata* has been intercepted in shipments from Mexico of lettuce [*Lactuca*], shasta daisy [*Leucanthemum x superbum* (J. W. Ingram) Berg. ex Kent.] (Asteraceae); turnip [*Brassica rapa* L.] (Brassicaceae); pepper [*Capsicum*] and tomato [*Lycopersicon esculentum* Mill.] (Solanaceae) (Blake, 1955a). It is unlikely that any of these plants are hosts. Wray & Brimley (1943) reported a specimen of *D. leptolineata* from *Sarracenia flava* L. (Sarraceniaceae), but this was probably an instance in which the insect was prey rather than an herbivore.

***Disonycha limbicollis* (LeConte).** These beetles are apparently associated with species of *Polygonum* (Polygonaceae), including *P. coccineum* Muhl. [*P. amphibium* var. *emersum* Michx.] (Anonymous, 1963s; Beutenmüller, 1890a; Blake, 1933a; Carr, 1988). Additionally, *D. limbicollis* is reported to occasionally occur on fruit trees [probably Rosaceae] (Carr, 1988; Essig, 1958). In previously unpublished investigations, we have seen material labeled from California in association with *Salix* (Salicaceae).

Robertson (1898) reported *D. limbicollis* from flowers of *Viburnum pubescens* (Ait.) Pursh (Caprifoliaceae). However, his observations were made in Illinois, far beyond the range of this western beetle species,

and they were certainly based on misidentified insects.

***Disonycha maritima* Mannerheim.** This species has been associated with *Beta vulgaris* L. (Chenopodiaceae) (Abdullah & Qureshi, 1969; Blake, 1933a; Carr, 1988; Hatch, 1971; Mignot, 1970; Moore, 1937; H. H. P. Severin, 1922; Stirrett, 1924). Also, Goeden & Ricker (1987a) indicated that adults and possibly even larvae occur rarely on *Cirsium congdonii* Moore & Frankton (Asteraceae).

***Disonycha pensylvanica* (Illiger).** Normal hosts are species of *Polygonum* (Polygonaceae), including water smartweed [*P. amphibium* L.] and *P. setaceum* Baldw. ex Elliott (Balsbaugh & Hays, 1972; Beutenmüller, 1890a; Blake, 1933a, 1955a; Brigham, 1982; Carr, 1988; Clark, 2000; Downie & Arnett, 1996; Essig, 1958; Flowers *et al.*, 1994; Jolivet, 2003; Papp, 1984; Smith, 1900, 1910a; Maw, 1976a; Mignot, 1970; Morris, 1914a, 1914b; Peck & Thomas, 1998; Riley & Enns, 1979; Schwarz, 1893; Swan & Papp, 1972; Vogt *et al.*, 1979; Wilcox, 1954, 1979). In previously unpublished investigations, we have collected adults of *D. pensylvanica* from *P. hydropiperoides* Michx. Additionally, this beetle species has been reported from *Rumex* (Polygonaceae) (Carr, 1988; Essig, 1958; Maw, 1976a; Papp, 1984; Schwarz, 1893).

Beyond Polygonaceae, *D. pensylvanica* been recorded from moss [Bryophyta]; *Sagittaria variabilis* Engelm. [*S. latifolia* Willd.] (Alismataceae); *Cirsium arvense* (L.) Scop. (Asteraceae); *Tillandsia usneoides* (L.) L. (Bromeliaceae); sedge [Cyperaceae]; mint [*Mentha* or a similar genus] (Lamiaceae); corn [*Zea mays* L.] (Poaceae); *Amelanchier canadensis* Medik., *Prunus virginiana* L., *Pyrus communis* L. (Rosaceae); and *Salix* (Salicaceae) (Andrews, 1923; Blatchley, 1910, 1924a; Bruner, 1890; Carr, 1988; Chittenden, 1892; Douglass, 1929; Duckett, 1920; Essig, 1958; Kirk, 1970; Lovell, 1915; Maw, 1976a; Papp, 1984; Popenoe, 1877; Rosenfeld, 1911; Schwarz, 1893; Smith, 1900, 1910a; Stirrett, 1924; Swan & Papp, 1972). However, at least most these associations were almost certainly incidental, or they were based on misidentification.

***Disonycha pluriligata* (LeConte).** These insects feed on species of *Salix* (Salicaceae), having been recorded from *S. exigua* Nutt. and *S. nigra* Marsh. (Blake, 1933a, 1955a; Burke *et al.*, 1974; Carr, 1988; DeSwarte & Balsbaugh, 1973; Dodge & Price, 1991a, 1991b; Dodge *et al.*, 1990; Downie & Arnett, 1996; Kumar *et al.*, 1976; Marques *et al.*, 1994; Rank *et al.*, 1996; Riley & Enns, 1979; Wilcox, 1979).

***Disonycha politula* Horn.** The food plant is reported to be *Amaranthus palmeri* S. Wats. (Amaranthaceae) (Blake, 1933a; Brisley, 1925; Mignot, 1970; Pallister, 1953). In previously unpublished investigations, we confirm this association, having collected adults of *D. politula* from this plant in western Texas.

This beetle species has also been recorded from *Helianthus*, *Solidago canadensis* L. (Asteraceae); and turnip [*Brassica rapa* L.] (Brassicaceae) (Fall & Cockerell, 1907; Mignot, 1970). In previously unpublished investigations, we have seen material labeled from Arizona in association with *Baccharis* (Asteraceae). However, these occurrences may have been incidental.

***Disonycha procera* Casey.** This species feeds on *Polygonum* (Polygonaceae) (Balsbaugh & Hays, 1972; Blake, 1933a, 1955a; Downie & Arnett, 1996; Hatch, 1971; Riley & Enns, 1979; Wilcox, 1954, 1979). Beyond this, Kirk & Balsbaugh (1975) recorded *D. procera* from sod [Poaceae] under a rock. However, they did not suggest a food plant relationship.

Additionally, *D. pallipes* Crotch, a name of uncertain identity, has been reported from species of *Polygonum*, including *P. emersum* (Michx.) Britt. [*P. amphibium* var. *emersum* Michx.] and *P. pensylvanicum* L. (Beutenmüller, 1890a; Blake, 1930; Robertson, 1896a; Scott, 1908). Scott (1908) also stated that full grown larvae of “*Disonycha pensylvanica* variety *pallipes*” bore into *Sparganium eurycarpum* Engelm. (Sparganiaceae) where they pupae, but he did not indicate that this was a food plant. Additionally, Webster (1881) included *D. pallipes* in a list of chrysomelids observed on either *Salix discolor* Muhl. or *S. petiolaris* J. E. Sm. (Salicaceae), and Robertson (1896b) recorded “*Disonycha limbicollis* Lec. var *pallipes* Cr.” from the flowers of *Spiraea aruncus* L. [*Aruncus sylvestris* Kostel ex Maxim.] (Rosaceae). Such associations may have been based on populations of *D. procera*. If so, plants other than *Polygonum* were probably not fed upon significantly.

***Disonycha punctigera* (LeConte).** Wheeler (1989) reported larvae of this species defoliating *Coronilla varia* L. (Fabaceae). In previously unpublished investigations in southern Missouri, we have confirmed this association for both larvae and adults.

Beyond this, beetles have been recorded from *Gutierrezia sarothrae* (Pursh) N. L. Britt. & Rusby (Asteraceae), alfalfa [*Medicago sativa* L.] (Fabaceae), corn [*Zea mays* L.] (Poaceae), purslane [*Portulaca*] (Portulacaceae), and willow [*Salix*] (Salicaceae) (Beller & Hatch, 1932; Jones & Nearman, 1965; Kumar *et al.*, 1976; Lavigne, 1976; Popenoe, 1877). Additionally, Lavigne (1976) recorded “*Disonycha* sp., prob. *punctigera*” from flowers of *Ericameria nauseosa* (Pall. ex Pursh) Nesom & Baird (Asteraceae). Wheeler (1989) indicated that associations with willow [*Salix*] were based on misidentified beetles. He also questioned reported associations with alfalfa [*Medicago sativa*] and corn [*Zea mays*].

***Disonycha schaefferi* Blake.** Blake (1933, page 6) stated that this species is known to feed on willow [*Salix*] (Salicaceae). However, this may have been an error. On page 25 of the same publication, she reported that the food plant is unknown.

***Disonycha stenosticha* Schaeffer.** We have collected adults of this species, and larvae presumably belonging to this species, from *Passiflora filipes* Benth. (Passifloraceae) in southern Texas. Adults were also found on *P. lutea* L. growing in the vicinity of *P. filipes*.

***Disonycha tenuicornis* Horn.** This species, including larvae, has been found feeding on *Salvia vinacea* Woot. & Standl. (Lamiaceae) (Blake, 1955a; Mignot, 1970). Additionally, in previously unpublished investigations in western Texas, we have collected adults, and larvae presumably belonging to this species, from *S. arizonica* Gray. Beyond *Salvia*, this beetle species has been reported from willow [*Salix*] (Salicaceae) (Mignot, 1970).

***Disonycha triangularis* (Say).** Recorded hosts are Chenopodiaceae, including *Beta vulgaris* L., *Chenopodium album* L., and *Spinacia oleracea* L. (Abdullah & Qureshi, 1969; Beirne, 1971; Beller & Hatch, 1932; Blake, 1933a; Blatchley, 1910; Bruner, 1891a, 1891b, 1891c; Burgess, 1977; Carr, 1988; Chittenden, 1892; Criddle, 1913; Crosby & Leonard, 1918; Dillon & Dillon, 1961; Downie & Arnett, 1996; Duckett, 1920; Forbes & Hart, 1900; Gibson, 1913; Hatch, 1971; Jaques, 1951; Kirk & Balsbaugh, 1975; Knowlton & Smith, 1935; Lawson, 1991; Loan, 1967; Mignot, 1970; Papp, 1984; Scott, 1908; Smith, 1900, 1910a; Stear, 1918; Stirrett, 1924, 1935; Swan & Papp, 1972; Vogt *et al.*, 1979; White, 1990; Wilcox, 1954, 1979).

This beetle species also feeds on *Amaranthus* (Amaranthaceae), including *A. retroflexus* L. and *A. spinosus* L. (Blake, 1933a; Burgess, 1977; Chittenden, 1892; Crosby & Leonard, 1918; Duckett, 1920; Forbes & Hart, 1900; Hatch, 1971; Lawson, 1991; Mignot, 1970; Riley & Enns, 1979; Smith, 1900, 1910a; Stirrett, 1924; Vogt *et al.*, 1979; White, 1990; Wilcox, 1954, 1979).

Additionally, *D. triangularis* has been reported from celery [*Apium*], carrot [*Daucus carota* L.] (Apiaceae); ragweed [*Ambrosia*] (Asteraceae); rape [*Brassica napus* L. or *B. rapa* L.], cabbage [*Brassica oleracea* L.], turnip [*B. rapa*], radish [*Raphanus sativus* L.] (Brassicaceae); chickweed [*Cerastium* or *Stellaria*] (Caryophyllaceae); soybean [*Glycine max* (L.) Merr.], alfalfa [*Medicago sativa* L.], red clover [*Trifolium pratense* L.] (Fabaceae); *Phacelia* (Hydrophyllaceae); black walnut [*Juglans nigra* L.] (Juglandaceae); sorghum [*Sorghum*], wheat [*Triticum*], corn [*Zea mays* L.] (Poaceae); *Salix discolor* Muhl., *S. petiolaris* J. E. Sm. (Salicaceae); *Solanum nigrum* L. [a North American record, therefore probably *S. americanum* P. Mill.], *S. tuberosum* L. (Solanaceae); and *Vitis rotundifolia* Michx. (Vitaceae) (Anonymous, 1963o; Beirne, 1971; Burgess, 1977; Carr, 1988; Crowson, 1981; Dillon & Dillon, 1961; Douglass, 1929; Everly, 1938; Hatch, 1971; Kirk, 1970; McGiffin & Neunzig, 1985; Mignot, 1970; Papp, 1984; Rouse & Medvedev, 1972; Swan & Papp, 1972; Webster, 1881; Whelan, 1936; White, 1990). Beyond this, Kirk & Balsbaugh (1975) recorded *D. triangularis* from sod [Poaceae] under a rock, but they did not suggest a food plant relationship. At least some of the other reported associations were almost certainly incidental, or they were based on misidentification. However, in previously unpublished field work in Missouri, we have found an adult of *D. triangularis* feeding on tips of young leaves of *Silene stellata* (L.) Ait. f. (Caryophyllaceae).

***Disonycha uniguttata* (Say).** Hosts are species of *Polygonum* (Polygonaceae), including *P. natans* (Michx.) Eat. (Blake, 1930; Blake, 1933a; Clark, 2000; Downie & Arnett, 1996; Judd, 1949; Mignot, 1970; Riley & Enns, 1979; Wilcox, 1954, 1979). In previously unpublished field work in Missouri, we have found adults feeding on *P. amphibium* var. *emersum* Michx. In Wisconsin, Andrew H. Williams (pers. comm.) has also found *D. uniguttata* feeding on leaves of *P. amphibium* L.

Additionally, this beetle species has been recorded from lettuce [*Lactuca*] (Asteraceae), cabbage [*Brassica oleracea* L.] (Brassicaceae), wild cucurbit [Cucurbitaceae], lilac [*Syringa*] (Oleaceae), pear [*Pyrus*] (Rosaceae), willow [*Salix*] (Salicaceae), and *Typha latifolia* L. (Typhaceae) (Jolivet, 2003; Kirk & Balsbaugh, 1975; Mignot, 1970). It has also been reported from under the bark of elm [*Ulmus*] (Ulmaceae) (Hoffman, 1942). Beyond previously published reports, Andrew H. Williams (pers. comm.) has found an adult of *D. uniguttata* feeding on leaves of *Corylus americana* Walt. (Betulaceae) in Wisconsin. Even so, plants other than *Polygonum* (Polygonaceae) are probably not normal hosts.

***Disonycha varicornis* Horn.** Hosts are species of *Opuntia* (Cactaceae), including *O. arborescens* Engelm., *O. davisii* Englem. & Bigel., *O. fulgida* Englem., *O. imbricata* (Haw.) DC., *O. kleiniae* DC., *O. leptocaulis* DC., *O. lindheimeri* Englem., and *O. versicolor* Englem. ex J. M. Coul. (Abdullah & Qureshi, 1969; Blake, 1933a; Hunter *et al.*, 1912; Mann, 1969; Mignot, 1970; Moore, 1937; Pallister, 1953; Stirrett, 1924; Townsend, 1902).

This beetle species has also been reported from cotton [*Gossypium*] (Malvaceae) (Townsend, 1902). However, this occurrence was probably incidental.

***Disonycha xanthomelas* (Dalman).** This species has been recorded from *Alternanthera philoxeroides* (Mart.) Griseb., *Amaranthus retroflexus* L., *A. spinosus* L., *Iresine diffusa* Humb. & Bonpl. ex Willd. (Amaranthaceae); *Asclepias syriaca* L. (Asclepiadaceae); horseradish [*Armoracia rusticana* (Lam.) P. G. Gaertn., B. Mey., & Scherb.], cabbage [*Brassica oleracea* L.] (Brassicaceae); *Cerastium vulgatum* L. [*C. fontanum* ssp. *vulgare* (Hartman) Greuter & Burdet], *Stellaria media* (L.) Vill. (Caryophyllaceae); *Atriplex holocarpa*

F. Muell., *A. semibaccata* R. Br., *A. velutinella* F. Muell., *Beta vulgaris* L., *Chenopodium album* L., *Salsola*, *Spinacia oleracea* L. (Chenopodiaceae); cucumber [*Cucumis sativus* L.] (Cucurbitaceae); soybean [*Glycine max* (L.) Merr.], *Phaseolus vulgaris* L. (Fabaceae); onion [*Allium*] (Liliaceae); oats [*Avena*], wheat [*Triticum*] (Poaceae); plum [*Prunus*] (Rosaceae); willow [*Salix*] (Salicaceae); and mullein [*Verbascum*] (Scrophulariaceae) (Abdullah & Qureshi, 1969; Balsbaugh & Hays, 1972; Balsbaugh *et al.*, 1981; Beirne, 1971; Bickensstaff & Huggans, 1962; Blake, 1933a; Blatchley, 1896, 1910; Brigham, 1982; Bruner, 1891a, 1891b; Chittenden, 1899b, 1902a, 1903b, 1903c, 1912a, 1912b; Chittenden & Marsh, 1909; Clark, 2000; Cranshaw, 1992; Crosby & Leonard, 1918; Dailey *et al.*, 1978; Davidson & Lyon, 1987; Dillon & Dillon, 1961; Douglass, 1929; Downie & Arnett, 1996; Duckett, 1920; Forbes & Hart, 1900; Gibson, 1913, 1914; Hutson, 1953; Jaques, 1951; Johnson & Lahring, 1963; Metcalf & Metcalf, 1993; Mignot, 1970; Milliron, 1955b; Orton & Chittenden, 1917; Papp, 1984; Peterson, 1960; Riley & Enns, 1979; Rouse & Medvedev, 1972; Sanderson & Peairs, 1931; Scott, 1908; Smith, 1900, 1910a; Stear, 1918; Stirrett, 1924, 1935; Swan & Papp, 1972; Vogt & Cordo, 1976; Vogt *et al.*, 1979; Westcott, 1946; Whelan, 1936; White, 1990; Wilcox, 1954, 1979). Additionally, Dearborn & Donahue (1993) reported *D. xanthomelas* from “pink sp.” which they interpreted as possibly pink spiraea [could be any of numerous species of *Spiraea*] (Rosaceae).

Kirk & Balsbaugh (1975) recorded *D. xanthomelas* from under trash on sod [Poaceae], but they did not suggest a food plant relationship. Boiteau (1983a) included this beetle species in a list of insects collected from potato fields [*Solanum tuberosum* L.] (Solanaceae), but this should not necessarily be interpreted as a host association. In fact, at least most recorded associations for plants other than Amaranthaceae, Chenopodiaceae, and possibly Caryophyllaceae were probably adventitious.

***Disonycha* sp.** In his unpublished Ph.D. thesis, Mignot (1970) described a new species from New York that was associated with *Prunus pumila* L. (Rosaceae).

***Distigmoptera apicalis* Blake.** This species has been reported from *Gutierrezia sarothrae* (Pursh) N. L. Britt. & Rusby (Asteraceae); alfalfa [*Medicago sativa* L.], *Trifolium pratense* L. (Fabaceae); peach [*Prunus persica* (L.) Batsch] (Rosaceae); and willow [*Salix*] (Salicaceae) (Blake, 1943; Downie & Arnett, 1996; Foster *et al.*, 1981; Niemczyk & Guyer, 1963; Riley & Enns, 1979).

***Distigmoptera borealis* Blake.** Kirk & Balsbaugh (1975) recorded material from the bloom of sunflower, which they interpreted as *Solidago* (Asteraceae). This report is a little odd, sunflower usually referring to *Helianthus* (Asteraceae). However, McDaniel *et al.* (1992) also recorded this beetle species from *Solidago*. Balsbaugh & Kirk (1968) reported collecting specimens by sweeping vegetation that included *Achillea lanulosa* Nutt., *Artemisia frigida* Willd., *A. ludoviciana* Nutt. (Asteraceae); *Dalea purpurea* Vent., *Psoralea argophylla* Pursh, *P. esculenta* A. Gray (Fabaceae); *Nassella viridula* (Trin.) Barkworth, *Stipa comata* Trin. & Rupr. (Poaceae); and *Polygala alba* Nutt. (Polygalaceae). It is unknown which, if any, of these plants are hosts. Beyond these reports, Kirk & Balsbaugh (1975) recorded *D. borealis* on sod [Poaceae] under a rock, but they did not suggest a food plant relationship.

***Distigmoptera pilosa* (Illiger).** Blatchley (1924c) reported material found on grass [Poaceae]. He also stated that this species hibernates in Spanish moss [*Tillandsia usneoides* (L.) L.] (Bromeliaceae), but he did not suggest that this was a food plant. Chagnon (1938) and Chagnon & Robert (1962) reported material from “Saules” [*Salix*] (Salicaceae). Lee (1949) found three specimens while surveying for insects associated with *Cercis canadensis* L. (Fabaceae). Rouse & Medvedev (1972) recorded material from loblolly pine [*Pinus taeda* L.] (Pinaceae) and broomsedge [*Andropogon virginicus* L.] (Poaceae). Unfortunately, some of these reports predate significant taxonomic revision, and the true identity of the beetles is therefore uncertain. Moreover, at least some of the occurrences were likely incidental.

***Donacia assimilis* Lacordaire.** This species has been associated with *Sparganium americanum* Nutt. (Sparganiaceae) (Balsbaugh & Hays, 1972; Borowiec, 1984; Brigham, 1982; Clark, 2000; Downie & Arnett, 1996; Marx, 1957; Wilcox, 1979).

***Donacia biimpressa* Melsheimer.** This species is apparently associated with Cyperaceae, having been reported from *Carex crinita* Lam., *C. stricta* Lam., and *Scirpus* (Blatchley, 1924a; Borowiec, 1984; Brigham, 1982; Cavey, 1987; Downie & Arnett, 1996; Marx, 1957; Schaeffer, 1925a, 1928a; Wilcox, 1979). It has also been reported from *Sagittaria* (Alismataceae), *Symplocarpus foetidus* (L.) W. Salisb. (Araceae), grass [Poaceae], *Sparganium* (Sparganiaceae), and *Typha latifolia* L. (Typhaceae) (Blatchley, 1924a; Brigham, 1982; Marx, 1957; Schaeffer, 1925a, 1928a; Wilcox, 1979), but these associations were likely incidental.

***Donacia caerulea* Olivier.** This species has been reported from *Sagittaria arifolia* Nutt. ex J. G. Sm., *S. engelmanniana* J. G. Sm., *S. latifolia* Willd., *S. rigida* Pursh (Alismataceae); *Acorus calamus* L. [*A. americanus* (Raf.) Raf.] (Araceae); *Solidago* (Asteraceae); sedge [Cyperaceae]; rush [*Juncus*] (Juncaceae); yellow waterlily [*Nuphar lutea* (L.) Sm.], *Nymphaea alba* L. (Nymphaeaceae); reed [*Phragmites* or similar genus] (Poaceae); *Pontederia cordata* L. (Pontederiaceae); and Sparganiaceae (genus not stated, but almost certainly *Sparganium*) (Balsbaugh & Hays, 1972; Blatchley, 1910; Borowiec, 1984; Brigham, 1982; Brimley, 1938;

Leaf Beetles and Associated Plants

Brockmann, 1975; Clark, 2000; Downie & Arnett, 1996; Hamilton, 1895; Harrington, 1883; Hoffman, 1940a, 1940c; Lays, 2001; Leng, 1891; Löding, 1945; Lovell, 1915; MacGillivray, 1903; Marx, 1957; McGaha, 1952; Schaeffer, 1925a, 1928a; Wilcox, 1979). Some of the above-mentioned associations were probably adventitious, the true hosts apparently being species of *Sagittaria*. Boiteau (1983a) included the synonym *Donacia aequalis* Say in a list of insects collected from potato fields [*Solanum tuberosum* L.] (Solanaceae), but this should not be interpreted as a host association.

***Donacia cazieri* Marx.** This species is reported to occur on *Carex limosa* L. (Cyperaceae) (Downie & Arnett, 1996).

***Donacia cincticornis* Newman.** This species has been reported from *Myriophyllum heterophyllum* Michx. (Haloragaceae); *Brasenia schreberi* J. F. Gmel. (Hydropteridaceae); *Nymphoides aquatica* (Walt. ex J. F. Gmel.) Kuntze, *N. cordata* (S. Ell.) Fern. (Menyanthaceae); *Nelumbo lutea* (Willd.) Pers. (Nelumbonaceae); *Nuphar advena* (Ait.) Ait. [*Nuphar lutea* ssp. *advena* (Ait.) Kartesz & Gandhi], *N. variegatum* Engelm., *Nymphaea flava* Leitn., *N. odorata* Ait., *N. tuberosa* Paine (Nymphaeaceae); *Potamogeton alpinus* Balbis, *P. amplifolius* Tuckerman, *P. gramineus* L., *P. natans* L., and *P. richardsonii* (A. Benn.) Rydb. (Potamogetonaceae) (Balsbaugh & Hays, 1972; Bayer & Brockmann, 1975; Berg, 1949; Blatchley, 1910, 1924a; Borowiec, 1984; Brigham, 1982; Clark, 2000; Cronin *et al.*, 1998; Dillon & Dillon, 1961; Downie & Arnett, 1996; Hoffman, 1940a, 1940b, 1940c; Lays, 2001; Leng, 1891; Löding, 1945; MacGillivray, 1903; Marx, 1957; McAtee, 1913; McGaha, 1952; Proctor, 1938, 1946; Riley & Enns, 1979; Rouse & Medvedev, 1972; Schaeffer, 1925a, 1928a; Smith, 1900; Takizawa, 2003; Wilcox, 1979). Of these plants, *Nymphaea* is apparently the normal host.

MacGillivray (1903) noted that, although eggs are laid on stems of sedge [Cyperaceae], this is not the food plant. In fact, the majority of the recorded associations with plants other than *Nymphaea* were likely abnormal or entirely incidental, or they were based on misidentification.

Cronin *et al.* (1998) conducted experiments in which adult *D. cincticornis* at least nibbled on some of the plants mentioned above and also on *Pontederia cordata* L. (Pontederiaceae). However, this plant was not thought to be a natural host.

***Donacia confluenta* Say.** Beetles have frequently been collected from a species of *Sparganium*, probably from *S. erectum* L. (Sparganiaceae) (Askevold, 1987; Clark, 2000; Downie & Arnett, 1996).

***Donacia cuprea* Kirby.** These insects are reported to occur on species of *Scirpus* (Cyperaceae), including *S. occidentalis* (Wats.) Chase [*S. acutus* Muhl. ex Bigelow] (Blatchley, 1910; Clark, 2000; Downie & Arnett, 1996; Knab, 1905). Beyond this, *D. quadricollis* Say, a synonym of *D. subtilis* Kunze, has also been reported from *S. acutus* (Brigham, 1982; Hoffman, 1940a, 1940c; Lays, 2001; Marx, 1957). As noted by Askevold (1987), many reports of *D. quadricollis* are in actuality based on *D. cuprea*.

***Donacia dissimilis* Schaeffer.** This species has been collected from flowers of *Nuphar advena* (Ait.) Ait. [*Nuphar lutea* ssp. *advena* (Ait.) Kartesz & Gandhi] (Nymphaeaceae) (Blatchley, 1925; Borowiec, 1984; Brigham, 1982; Marx, 1957).

***Donacia distincta* LeConte.** This species is reported to occur on Cyperaceae, including *Carex rostrata* Stokes [*C. utriculata* Boott] and *Scirpus* (Carr, 1988; Downie & Arnett, 1996; Hatch, 1971; Marx, 1957; Wilcox, 1979). It has also been collected from yellow waterlily [*Nuphar lutea* (L.) Sm.] (Nymphaeaceae) (Blatchley, 1910).

***Donacia edentata* Schaeffer.** This species is reported to occur on *Nymphaea odorata* Ait. (Nymphaeaceae) (Borowiec, 1984; Brigham, 1982; Clark, 2000; Downie & Arnett, 1996; Marx, 1957; Schaeffer, 1920, 1925a, 1928a; Wilcox, 1979). It has also been recorded from *Nymphaea advena* Ait. [*Nuphar lutea* ssp. *advena* (Ait.) Kartesz & Gandhi] (Nymphaeaceae) (Schaeffer, 1925a; Wilcox, 1979), but this may not be a normal host.

***Donacia fulgens* LeConte.** This species is associated with *Sparganium* (Sparganiaceae), having been reported from *S. americanum* Nutt. and *S. angustifolium* Michx. (Askevold, 1987; Borowiec, 1984; Brigham, 1982; Downie & Arnett, 1996; Marx, 1957; Wilcox, 1979). It has also been reported from *Eleocharis*, *Scirpus* (Cyperaceae); water lily [likely *Nuphar* or *Nymphaea*] (Nymphaeaceae); *Pontederia cordata* L. (Pontederiaceae); and cattail [*Typha*] (Typhaceae) (Borowiec, 1984; Brigham, 1982; Downie & Arnett, 1996; Hatch, 1971; Johnson, 1927; Marx, 1957; Wilcox, 1979).

***Donacia hirticollis* Kirby.** This species has been reported from *Sagittaria latifolia* Willd. (Alismataceae); *Symplocarpus foetidus* (L.) W. Salisb. (Araceae); *Myriophyllum spicatum* L. (Haloragaceae); *Nuphar advena* (Ait.) Ait. [*Nuphar lutea* ssp. *advena* (Ait.) Kartesz & Gandhi], *N. polysepala* Engelm., *N. variegatum* Engelm., *Nymphaea* (Nymphaeaceae); *Glyceria borealis* (Nash) Batch. (Poaceae); *Polygonum amphibium* L. (Polygonaceae); *Pontederia cordata* L. (Pontederiaceae); *Potamogeton alpinus* Balbis, *P. amplifolius* Tuckerman, *P. epihydrus* Raf., *P. natans* L., *P. richardsonii* (A. Benn.) Rydb. (Potamogetonaceae); *Sparganium angustifolium* Michx. and *S. diversifolium* Graeb. [*S. erectum* L.] (Sparganiaceae) (Andrews, 1923; Berg, 1949;

Borowiec, 1984; Carr, 1988; Downie & Arnett, 1996; Hatch, 1971; Hoffman, 1940a, 1940c; La Rivers, 1951; Lays, 2001; Marx, 1957; Schaeffer, 1925a; Wilcox, 1979). Of these plants, *Sparganium* and *Potamogeton* are probably the preferred hosts.

***Donacia hypoleuca* Lacordaire.** Downie & Arnett (1996) stated that this species probably occurs on Nymphaeaceae, although it had not recorded from this family. They may not have been aware of Riley & Enns' (1979) record of a specimen from *Brasenia schreberi* J. F. Gmel. (Hydrophellidae), or of Steenis & Mitchell's (1950) report of *D. hypoleuca*, including larvae, from *Nelumbo pentapetala* (Walter) Fernald (Nelumbonaceae). Both of these plants have often been included in the Nymphaeaceae. This beetle species has also been reported from Cyperaceae (genus not specified) (Andrews, 1923; Brigham, 1982; Clark, 2000; Downie & Arnett, 1996; Marx, 1957).

***Donacia liebecki* Schaeffer.** This species has been reported from *Orontium aquaticum* L. (Araceae); *Carex* (Cyperaceae); *Eriocaulon compressum* Lam. (Eriocaulaceae); *Nuphar advena* (Ait.) Ait. [*Nuphar lutea* ssp. *advena* (Ait.) Kartesz & Gandhi] and *Nymphaea odorata* Ait. (Nymphaeaceae) (Borowiec, 1984; Brigham, 1982; Clark, 2000; Downie & Arnett, 1996; Frost, 1931; Marx, 1957; Proctor, 1938, 1946; Schaeffer, 1925a, 1928a; Wilcox, 1954, 1979). Adults have also been collected from flowers of white daisy [*Chrysanthemum* or similar genus] (Asteraceae) (Marx, 1957; Schaeffer, 1925a), but this is probably not a normal host. In previously unpublished investigations, we have collected adults of this beetle species from *Eleocharis quadrangulata* (Michx.) R. & S. (Cyperaceae) in southeastern Texas.

***Donacia limonia* Schaeffer.** This species is reported to occur on *Carex* and *Scirpus* (Cyperaceae) (Downie & Arnett, 1996).

***Donacia magnifica* LeConte.** This species has been reported from *Sagittaria* (Alismataceae), water lily [likely *Nuphar* or *Nymphaea*] (Nymphaeaceae), and *Potamogeton* (Potamogetonaceae) (Carr, 1988; Downie & Arnett, 1996; Hatch, 1971; Marx, 1957; Schaeffer, 1925a; Wilcox, 1979).

***Donacia megacornis* Blatchley.** The preferred host is apparently *Nymphaea odorata* Ait. (Nymphaeaceae) (Borowiec, 1984; Brigham, 1982; Clark, 2000; Downie & Arnett, 1996; Marx, 1957; Schaeffer, 1925a, 1928a; Wilcox, 1979). However, this beetle species has also been reported from Cyperaceae (genus not specified) and *Nuphar advena* (Ait.) Ait. [*Nuphar lutea* ssp. *advena* (Ait.) Kartesz & Gandhi] (Nymphaeaceae) (Brigham, 1982; Clark, 2000; Downie & Arnett, 1996; Schaeffer, 1925a, 1928a; Wilcox, 1979).

***Donacia militaris* Lacordaire.** This species has been associated with *Nymphaea odorata* Ait. (Nymphaeaceae) (Blatchley, 1924a; Borowiec, 1984; Brigham, 1982; Clark, 2000; Downie & Arnett, 1996; Marx, 1957; Schaeffer, 1925a, 1928a; Smith, 1900, 1910a; Wilcox, 1979).

***Donacia palmata* Olivier.** This species has been reported from *Nuphar lutea* (L.) Sm. and white pond lily [*Nymphaea odorata* Ait.] (Nymphaeaceae) (Beutenmüller, 1890a; Blatchley, 1910; Borowiec, 1984; Böving, 1910; Brigham, 1982; Clark, 2000; Davis, 1965; Downie & Arnett, 1996; Gossington, 1976; Hamilton, 1895; Leng, 1891; MacGillivray, 1903; Marx, 1957; Needham, 1908; Schaeffer, 1925a, 1928a; Wilcox, 1954, 1979). Of these plants, *Nuphar* is the preferred host. Additionally, a specimen has been collected from *Taxodium distichum* (L.) L. C. Rich. (Taxodiaceae) (Brigham, 1982; Marx, 1957), but this occurrence was surely incidental.

***Donacia parvidens* Schaeffer.** This species has been recorded from *Sagittaria latifolia* Willd. (Alismataceae); *Nuphar*, *Nymphaea odorata* Ait. (Nymphaeaceae); and *Sparganium* (Sparganiaceae) (Borowiec, 1984; Brigham, 1982; Clark, 2000; Downie & Arnett, 1996; Marx, 1957; Schaeffer, 1925a, 1928a; Wilcox, 1954, 1979). Of these plants, *Nymphaea* is the preferred host.

***Donacia piscatrix* Lacordaire.** This species has been associated with *Nuphar lutea* (L.) Sm. and *N. variegatum* Engelm. (Nymphaeaceae) (Andrews, 1923; Beutenmüller, 1890a; Blatchley, 1924a; Borowiec, 1984; Brigham, 1982; Clark, 2000; Dillon & Dillon, 1961; Downie & Arnett, 1996; Hamilton, 1895; Hoffman, 1940a, 1940c; La Rivers, 1951; Lays, 2001; Leng, 1891; Lippok *et al.*, 2000; Lovell, 1915; Marx, 1957; McGaha, 1952; Papp, 1984; Robertson, 1889a, 1927; Schaeffer, 1925a, 1928a; Smith, 1900; Sohmer & Sefton, 1978; Swan & Papp, 1972; Wilcox, 1954, 1979). It has also been reported from *Nymphaea* (Nymphaeaceae) (Beutenmüller, 1890a; Brigham, 1982; Downie & Arnett, 1996; Sanderson, 1900; Schaeffer, 1925a; Smith, 1900), but these reports likely originated with old observations made during an era when *Nuphar* was not taxonomically distinguished from *Nymphaea*. However, Marx (1957) did record a single specimen labeled from white lily [likely *Nymphaea odorata* Ait.]. This beetle species is also reported to damage *Nelumbo* (Nelumbonaceae) (Sohmer & Sefton, 1978). Additionally, a specimen has been collected from *Pontederia cordata* L. (Pontederiaceae) (Brigham, 1982; Marx, 1957).

***Donacia porosicollis* Lacordaire.** This species is reported to occur on *Carex* and *Scirpus* (Cyperaceae) (Böving, 1910; Downie & Arnett, 1996; MacGillivray, 1903). Additionally, it has been recorded from *Juncus* (Juncaceae) (Borowiec, 1984; Brigham, 1982; MacGillivray, 1903; Marx, 1957; Schaeffer, 1925a; Wilcox, 1954, 1979). Also, *D. porosicollis* has been recorded from *Caltha palustris* L. (Ranunculaceae) (Marx, 1957;

Schaeffer, 1925a; Wilcox, 1979). Beyond these associations, this beetle species has been swept from grass [Poaceae] (Marx, 1957; Schaeffer, 1925a), but sweeping records should not necessarily be interpreted as host associations.

***Donacia proxima* Kirby.** This species has been reported from *Nuphar advena* (Ait.) Ait. [*Nuphar lutea* ssp. *advena* (Ait.) Kartesz & Gandhi], *N. polysepala* Engelm., *N. variegatum* Engelm., and *Nymphaea odorata* Ait. (Nymphaeaceae) (Andrews, 1923; Borowiec, 1984; Böving, 1910; Brigham, 1982; Carr, 1988; Clark, 2000; Downie & Arnett, 1996; Harrington, 1883; Hatch, 1971; Hoffman, 1940a, 1940b, 1940c; Johnson, 1915, 1927; Lays, 2001; Marx, 1957; McGaha, 1952; Packard, 1877; Sanderson, 1900; Schaeffer, 1925a, 1928a; Wilcox, 1979). Of these plants, *Nuphar* is the normal host. Beyond these associations, three beetles were collected from *Sparganium* (Sparganiaceae), but they were thought to be merely resting on this plant (Brigham, 1982; Marx, 1957).

***Donacia pubescens* LeConte.** This species has been reported from *Scirpus occidentalis* (Wats.) Chase [*S. acutus* Muhl. ex Bigelow] (Cyperaceae); *Nymphaea odorata* Ait., *N. tuberosa* Paine (Nymphaeaceae); and *Pontederia cordata* L. (Pontederiaceae) (Beller & Hatch, 1932; Blatchley, 1910; Borowiec, 1984; Carr, 1988; Clark, 2000; Downie & Arnett, 1996; Hatch, 1971; Hoffman, 1940a, 1940c; La Rivers, 1951; Lays, 2001; Marx, 1957; McGaha, 1952; Schaeffer, 1925a, 1928a; Wilcox, 1979). In previously unpublished investigations, we have seen a specimen labeled from Ontario in association with *Scirpus validus* Vahl. [*Schoenoplectus tabernaemontani* (C. C. Gmel.) Palla] (Cyperaceae).

***Donacia rufescens* Lacordaire.** This species has been reported from *Sagittaria* (Alismataceae); *Brasenia* (Hydrophylitaceae); yellow waterlily [*Nuphar lutea* (L.) Sm.] and *Nymphaea odorata* Ait. (Nymphaeaceae) (Blatchley, 1910; Borowiec, 1984; Brigham, 1982; Clark, 2000; Downie & Arnett, 1996; Marx, 1957; Schaeffer, 1925a, 1928a; Wilcox, 1979). Of these plants, *Nymphaea* is the preferred host.

***Donacia rugosa* LeConte.** *Pontederia cordata* L. (Pontederiaceae) is reported to be the most favored host (Balsbaugh & Hays, 1972; Blatchley, 1910, 1924a; Borowiec, 1984; Brigham, 1982; Clark, 2000; Downie & Arnett, 1996; Jolivet, 1977; Marx, 1957; Proctor, 1938, 1946; Schaeffer, 1925a, 1928a; Smith, 1900; Wilcox, 1979). However, this beetle species has also been recorded from *Sagittaria* (Alismataceae), *Eleocharis* (Cyperaceae), *Nymphaea* (Nymphaeaceae), *Potamogeton* (Potamogetonaceae), and *Sparganium* (Sparganiaceae) (Andrews, 1923; Brigham, 1982; Marx, 1957; Schaeffer, 1925a, 1928a; Wilcox, 1954, 1979).

***Donacia subtilis* Kunze.** Normal hosts are apparently species of *Sparganium* (Sparganiaceae), including *S. americanum* Nutt., *S. androcladum* (Engelm.) Morong, *S. angustifolium* Michx., *S. chlorocarpum* Rydb. [*S. erectum* L.], *S. diversifolium* Graeb. [*S. erectum*], and *S. eurycarpum* Engelm. (Askevold, 1987; Borowiec, 1984; Brigham, 1982; Carr, 1988; Downie & Arnett, 1996; Hoffman, 1940a, 1940b, 1940c; La Rivers, 1951; Lays, 2001; Löding, 1945; Marx, 1957; Riley & Enns, 1979; Schaeffer, 1925a, 1928a; Smith, 1900; Wilcox, 1954, 1979).

This beetle species has also been recorded from *Sagittaria latifolia* Willd. (Alismataceae); *Acorus calamus* L. [*A. americanus* (Raf.) Raf.], arrow arum [*Peltandra virginica* Raf.] (Araceae); burdock [*Arctium*], *Solidago* (Asteraceae); *Eleocharis*, *Scirpus* (Cyperaceae); rush [*Juncus*] (Juncaceae); *Nuphar advena* (Ait.) Ait. [*N. lutea* ssp. *advena* (Ait.) Kartesz & Gandhi], *Nymphaea odorata* Ait. (Nymphaeaceae); reed [*Phragmites* or similar genus] (Poaceae); *Polygonum amphibium* L., *P. hydropiperoides* Michx. (Polygonaceae); *Pontederia cordata* L. (Pontederiaceae); and *Typha latifolia* L. (Typhaceae) (Andrews, 1923; Bayer & Brockmann, 1975; Beller & Hatch, 1932; Beutenmüller, 1890; Blatchley, 1910; Borowiec, 1984; Böving, 1910; Brigham, 1982; Carr, 1988; Clark, 2000; Dillon & Dillon, 1961; Hamilton, 1895; Harrington, 1883; Hoffman, 1940a, 1940c; Johnson, 1927; Judd, 1949; La Rivers, 1951; Lays, 2001; Leng, 1891; MacGillivray, 1903; Marx, 1957; McGaha, 1952; Schaeffer, 1925a; Wilcox, 1979). At least some of the non-*Sparganium* associations were certainly incidental.

Beyond this, *D. quadricollis* Say, a synonym of *D. subtilis*, has been reported from *Scirpus acutus* Muhl. ex Bigelow (Cyperaceae) (Borowiec, 1984; Brigham, 1982; Hoffman, 1940a, 1940c; Lays, 2001; Marx, 1957; Schaeffer, 1925a, 1928a; Wilcox, 1979). However, as noted by Askevold (1987), many reports of *D. quadricollis* were in actuality based on *D. cuprea* Kirby.

***Donacia texana* Crotch.** This species has been reported from *Nuphar advena* (Ait.) Ait. [*N. lutea* ssp. *advena* (Ait.) Kartesz & Gandhi] and *Nymphaea* (Nymphaeaceae) (Blatchley, 1924a; Borowiec, 1984; Brigham, 1982; Downie & Arnett, 1996; Lippok *et al.*, 2000; Marx, 1957; Schaeffer, 1925a, 1928a; Wilcox, 1954, 1979).

***Donacia tuberculata* Lacordaire.** This species is reported to occur on *Sagittaria* (Alismataceae) and *Peltandra virginica* Raf. (Araceae) (Clark, 2000; Downie & Arnett, 1996; Leng, 1891; Smith, 1900).

Additionally, "*Donacia rufa* Say" has been reported from *Sagittaria latifolia* Willd. (Alismataceae); skunk cabbage [*Lysichiton camtschatcense* (L.) Schott. or *Symplocarpus foetidus* (L.) W. Salisb.], *Peltandra virginica* (Araceae); and *Iris versicolor* L. (Iridaceae) (Balsbaugh & Hays, 1972; Blatchley, 1910; Borowiec,

1984; Brigham, 1982; Dillon & Dillon, 1961; Johnson, 1916; Lovell, 1915; Marx, 1957; Schaeffer, 1925a, 1928a; Wilcox, 1979). These associations may have been based on *D. tuberculata*, the two species frequently being confused prior to the taxonomic treatment of Askevold (1991b).

***Donacia tuberculifrons* Schaeffer.** Askevold (1987) reported that this species had been collected from *Scirpus paludosus* Nels. (Cyperaceae) and “*Sparganium* sp. (*eurycarpum* Englm. ?)” (Sparganiaceae). Other authors have recorded *D. tuberculifrons* from *Acorus calamus* L. [*A. americanus* (Raf.) Raf.] (Araceae); *Carex*, *Scirpus paludosus* (Cyperaceae); yellow pond lily [*Nuphar lutea* (L.) Sm.] (Nymphaeaceae); and *Sparganium* (Sparganiaceae) (Brigham, 1982; Downie & Arnett, 1996; La Rivers, 1951; Marx, 1957; Schaeffer, 1925a, 1928a; Wilcox, 1979).

***Donacia vicina* Lacordaire.** This species has been collected from *Sparganium* (Sparganiaceae) (Balsbaugh & Hays, 1972; Brigham, 1982; Carr, 1988; Löding, 1945; Marx, 1957; Schaeffer, 1925a).

***Donaciella pubicollis* (Suffrian).** This species has been associated with *Phragmites communis* Trin. [*P. australis* (Cav.) Trin. ex Steud.] (Poaceae) (Askevold, 1990a; Borowiec, 1984; Downie & Arnett, 1996; Hoffman, 1940a, 1940c; Lays, 2001; Marx, 1957; Riley *et al.*, 2002; Wilcox, 1979). It has also been reported from *Nymphaea* (Nymphaeaceae) (Blatchley, 1910; Downie & Arnett, 1996; Leng, 1891; Marx, 1957; Schaeffer, 1925a).

***Dysphenges rileyi* Gilbert & Andrews.** This species has been associated with *Mimosa purpurascens* Robinson (Fabaceae) in the Baja California peninsula of Mexico, and it has been collected from an unidentified species of *Mimosa* in Arizona (Gilbert & Andrews, 2002).

***Entomoscelis americana* Brown.** This species, often misidentified as *E. adonidis* Pallas by earlier American authors, feeds on Brassicaceae, having been recorded from horseradish [*Armoracia rusticana* (Lam.) P. G. Gaertn., B. Mey., & Scherb.], hoary alyssum [*Berteroa incana* (L.) DC.], *Brassica juncea* (L.) Czern., *B. napus* L., *B. nigra* (L.) W. D. J. Koch, broccoli [*B. oleracea* L.], cabbage [*B. oleracea*], cauliflower [*B. oleracea*], kohlrabi [*B. oleracea*], *B. campestris* L. [*B. rapa* L.], Virginia stock [*Cakile maritima* Scop.], *Capsella bursa-pastoris* (L.) Medik., green tansy mustard [*Descurainia pinnata* (Walt.) Britt.], *Descurainia richardsonii* (Sweet) O. E. Schulz, *D. sophia* (L.) Webb in Engler & Prantl, *Erucastrum gallicum* (Willd.) O. E. Schulz, prairie wall-flower [*Erysimum asperum* (Nutt.) DC.], *Erysimum cheiranthoides* L., *E. cheiri* (L.) Crantz, *E. inconspicuum* (Wats.) MacMill., *Lepidium*, radish [*Raphanus sativus* L.], marsh yellow cress [*Rorippa islandica* (Oeder ex Murray) Borbás], *Brassica hirta* Moench [*Sinapis alba* L.], *Sinapis arvensis* L., tumble mustard [*Sisymbrium altissimum* L.], and tall hedge mustard [*Sisymbrium loeselii* L.] (Abdullah & Qureshi, 1969; Anonymous, 1961p, 1962e, 1965k, 1977a; Beirne, 1971; Brown, 1942b; Carr, 1920; Chamberlain, 1949; Chittenden, 1902a; Criddle, 1912, 1913; Crosby & Leonard, 1918; Dustan, 1932; Essig, 1958; Gerber, 1974, 1975, 1977, 1981, 1982, 1984a, 1984b, 1987, 1989; Gerber & Lamb, 1982; Gerber & Obadorfin, 1981a, 1981b; Hatch, 1971; Lamb, 1989; Mitchell, 1978; Nielsen, 1988; Palaniswamy & Lamb, 1998; Pirone, 1970; Riley *et al.*, 2002; Turnock *et al.*, 1979; Washburn, 1975; Westcott, 1946; Wickham, 1896a, 1902; Wilcox, 1972). Beyond these associations, Gerber (1982) postulated that the brassicaceous plants false-flax [*Camelina*], hoary cress [*Cardaria draba* (L.) Desv.], hare's ear mustard [*Conringia orientalis* (L.) Dumort.], and ball mustard [*Neslia paniculata* (L.) Desv.] were also hosts.

Under laboratory conditions, *E. americana* has also fed, at least to some degree, on *Descurainia pinnata*, *Lepidium densiflorum* Schrad., *Rorippa palustris* (L.) Besser, and *Sisymbrium loeselii* (Brassicaceae) (Gerber, 1984b; Gerber & Obadorfin, 1981b; Nielsen, 1988; Palaniswamy & Lamb, 1998).

In addition to its normal brassicaceous hosts, *E. americana* (or “*E. adonidis*”) has been reported from *Cnicus*, lettuce [*Lactuca*] (Asteraceae); beet [*Beta vulgaris* L.], spinach [*Spinacia oleracea* L.] (Chenopodiaceae); sweetclover [*Melilotus*], bean [likely *Phaseolus vulgaris* L.] (Fabaceae); wheat kernels [*Triticum*] (Poaceae); and potato [*Solanum tuberosum* L.] (Solanaceae) (Beirne, 1971; Brown, 1942b; Crosby & Leonard, 1918; Dustan, 1932; Hatch, 1971; Wickham, 1902). These are not normal food plants.

***Epitrix brevis* Schwarz.** This species is associated with Solanaceae, having been recorded from *Capiscum frutescens* L. [*C. annuum* L.], *Datura stramonium* L., *Lycopersicon esculentum* Mill., Chinese lantern [*Physalis alkekengi* L.], *Physalis longifolia* Nutt., *P. pubescens* L., *Solanum americanum* P. Mill., *S. dulcamara* L., *S. melongena* L., and *S. tuberosum* L. (Anonymous, 1963q; Bissell *et al.*, 1962; Chittenden, 1899b; Clark, 2000; Gentner, 1924; Heikertinger, 1950; Kirk, 1970; Riley & Enns, 1979; Stirrett, 1924; Wilcox, 1979). In previously unpublished investigations in Maryland, we have collected a series from cultivated *Physalis ixocarpa* Hornem.

This beetle species has also been reported from fern [Pteridophyta], *Eupatorium* (Asteraceae), *Beta vulgaris* L. (Chenopodiaceae), *Cercis canadensis* L. (Fabaceae), *Aesculus pavia* L. (Hippocastanaceae), *Magnolia virginiana* L. (Magnoliaceae), *Zea mays* L. (Poaceae), and pyracantha [*Pyracantha*] (Rosaceae) (Blatchley, 1924a; Forbes & Hart, 1900; Kirk, 1969, 1970; Lee, 1949; Stirrett, 1924). Even so, these are probably not preferred hosts.

***Epitrix cucumeris* (Harris).** This species normally feeds on Solanaceae, having been reported from *Atropa belladonna* L., *Capsicum annuum* L., *Datura stramonium* L., *Lycopersicon esculentum* Mill., *Nicotiana tabacum* L., *Petunia x hybrida* (Hook.) Vilm., *P. nyctaginiflora* Jussieu, Japanese lantern [*Physalis alkekengi* L.], *Physalis angulata* L., *P. peruviana* L., *P. pubescens* L., *P. virginiana* P. Mill., *Solanum americanum* P. Mill., wonderberry [*S. burbankii* Bitter], *S. carolinense* L., *S. dulcamara* L., *S. melongena* L., *S. pseudocapsicum* L., *S. purpureum* Dunal, *S. rostratum* Dunal, *S. torvum* Sw., and *S. tuberosum* L. (Abdullah & Qureshi, 1969; Anderson, 1934; Anderson & Walker, 1936; Anonymous, 1959s; Balduf, 1923; Balsbaugh *et al.*, 1967; Beirne, 1971; Beller & Hatch, 1932; Beutenmüller, 1890a; Blatchley, 1910, 1923, 1924a; Boiteau, 1983a, 1983b; Borror *et al.*, 1989; Britton, 1918a, 1919; Bruner, 1891b; Cameron, 1915; Carr, 1988; Chagnon, 1938; Chagnon & Robert, 1962; Chittenden, 1898c, 1899b, 1902a, 1904c, 1912b; Chittenden & Orton, 1923; Chupp & Leiby, 1953; Clark, 2000; Comstock, 1925; Comstock *et al.*, 1931; Cranshaw, 1992; Crosby & Leonard, 1918; Daniels, 1937; Dearborn & Donahue, 1993; Douglass, 1929; Downie & Arnett, 1996; Duckett, 1920; Dudley *et al.*, 1952; Dustan, 1932, 1936; Edwards, 1949; Ephraim & Radcliffe, 1968; Essig, 1915b, 1958; Essig & Hoskins, 1944; Felt, 1902a; Flanders & Radcliffe (1992); Flanders *et al.*, 1992, 1997; Folsom *et al.*, 1949; Forbes, 1905; Forbes & Hart, 1900; Garman, 1892, 1921b; Gibson, 1913, 1914, 1928; Gui, 1938; Hallock, 1939; Hanson, 1933; Harris, 1851, 1863; Heikertinger, 1950; Hill, 1944, 1945; Hill & Tate, 1942; Hoerner & Gillette, 1928; Hopkins & Rumsey, 1896; Hockett, 1932; Jaques, 1951; Jewett, 1929; Johannsen, 1913; Johnson, 1927; Jolivet, 1991a; Jolivet & Hawkeswood, 1995; Jolivet & Verma, 2002; Jones, 1944; King & Saunders, 1984; Kirk & Balsbaugh, 1975; Kring, 1958; Lacroix, 1935; Lawson, 1991; Lugger, 1899; MacGregor & Gutiérrez, 1983; Matheson, 1944; McDaniel *et al.*, 1992; Metcalf & Metcalf, 1993; Metcalf & Underhill, 1919; Milliron, 1958; Morrison *et al.*, 1967; Needham *et al.*, 1928; Newton, 1929; Orton & Chittenden, 1917; Packard, 1877; Papp, 1984; Parry, 1986; Patch, 1913; Peterson, 1960; Pirone, 1970; Popenoe, 1877; Radcliffe, 1982; Radcliffe *et al.*, 1990; Riley, 1869a, 1870c; Riley & Enns, 1979; Sanderson, 1899; Sanderson & Peairs, 1931; Schwarz, 1893; Scott *et al.*, 1932; Shands & Landis, 1964; Shands *et al.*, 1938; Slesman, 1940; Slingerland & Crosby, 1915; Smith, 1900, 1910a, 1943, 1967; Somes, 1916; Sorensen, 1994; Sorensen & Baker, 1983; Stear, 1918; Stewart, 1896; Stirrett, 1924; Swan & Papp, 1972; Swenk & Tate, 1940; Takizawa, 2003; Thomas, 1943; Turner, 1940; Virkki & Santiago-Blay, 1998; Walsh & Riley, 1868a; Webster, 1915; C. M. Weed, 1895; Weigel & Baumhofer, 1948; Westcott, 1946; Wickham, 1897; Wilcox, 1954, 1979; Wray, 1966). Unfortunately, some of these associations predate significant taxonomic treatment, and the true identity of the beetles is therefore questionable.

Under experimental conditions, *E. cucumeris* has also fed on numerous other, mostly exotic species of *Solanum*: *S. abancayense* Ochoa, *S. acaule* Bitt., *S. acroglossum* Juz., *S. acroscopicum* Ochoa, *S. agrimoniifolium* Rydberg, *S. ajanhuiri* Juz. & Buk., *S. alandiae* Cárdenas, *S. albicans* (Ochoa) Ochoa, *S. albornozii* Corr., *S. ambosinum* Ochoa, *S. andigena* Juz. & Buk., *S. andreanum* Baker, *S. avilesii* Hawkes & Hjerting, *S. berthaultii* Hawkes, *S. blanco-galdosii* Ochoa, *S. boliviense* Dunal, *S. brachistotrichum* (Bitt.) Rydb., *S. brachycarpum* Corr., *S. brevicale* Bitter, *S. brevidens* Phil., *S. bukasovii* Juz., *S. bulbocastanum* Dunal, *S. canasense* Hawkes, *S. candolleianum* Berth., *S. capsicibaccatum* Cardot, *S. cardiophyllum* Lindl., *S. chacoense* Bitter, *S. chancayense* Ochoa, *S. chomatophilum* Bitt., *S. circaeifolium* Bitter, *S. commersonii* Dunal, *S. curtilobum* Juz. & Buk., *S. demissum* Lindl., *S. doddsii* Corr., *S. dolichocremastrum* Bitter, *S. ehrenbergii* Rydb., *S. etuberosum* Lindl., *S. fenderli* A. Gray, *S. gandarillasii* Cár., *S. gourlayi* Hawkes, *S. guerreroense* Corr., *S. herrerae* Juzopczuk, *S. hjertingii* Hawkes, *S. hondelmannii* Hawkes & Hjerting, *S. hougasii* Corr., *S. huanabambense* Ochoa, *S. immite* Dun., *S. incamayoense* Okada, *S. infundibultiforme* Phil., *S. iopetalum* (Bitt.) Hawkes, *S. jamesii* J. Torr., *S. kurtzianum* Bitter & Wittm., *S. laxissimum* Bitter, *S. leptophyes* Bitt., *S. lesteri* Hawkes & Hjerting, *S. limbaniense* Ochoa, *S. lycopersicoides* Dun., *S. marinasense* Vargas, *S. medians* Bitt., *S. megistacrolobum* Bitt., *S. michoacanum* (Bitt.) Rydb., *S. microdontum* Bitt., *S. mochiquirense* Ochoa, *S. moscopanum* Hawkes, *S. multidissectum* Hawkes, *S. multi-interruptum* Bitt., *S. neoantipoviczii* Buk., *S. neocardenasii* Hawkes & Hjerting, *S. neorossii* Hawkes & Hjerting, *S. caldasii* Dunal [*S. ochranthum* Dunal], *S. okadae* Hawkes & Hjerting, *S. oplocense* Hawkes, *S. oxycarpum* Schiede, *S. pampasense* A. D. Hawkes, *S. papita* Rydb., *S. paucijugum* Bitter, *S. phureja* Juz. & Buk., *S. pinnatisectum* Dunal, *S. piurae* Bitt., *S. polyadenium* Greenman, *S. polytrichon* Rydb., *S. raphanifolium* Cár. & Hawkes, *S. sanctae-rosae* Hawkes, *S. santolallae* Vargas, *S. scabrifolium* Ochoa, *S. schenckii* Bitt., *S. sogarandinum* Ochoa, *S. sparsipilum* (Bitter) Vavilov, *S. spegazzinii* Bitt., *S. stenophyllidium* Bitt., *S. stenotomum* Juz. & Buk., *S. stoloniferum* Schltd., *S. sucrense* Hawkes, *S. tarijense* Hawkes, *S. toralapanum* Cár. & Hawkes, *S. trifidum* Correll, *S. venturii* Hawkes & Hjerting, *S. vernei* Bitter & Wittm., and *S. verrucosum* Schlecht. (Casagrande, 1982; Ephraim & Radcliffe, 1968; Flanders & Radcliffe (1992); Flanders *et al.*, 1992, 1997; Slesman, 1940). However, some of these plants were found to be considerably resistant to attack by the insects.

Beyond Solanaceae, *E. cucumeris* has been reported from numerous other plants. However, as stated by Beirne (1971), such associations frequently occur early in the spring, late in the year, or at other times when

normal hosts are not abundantly available. Moreover, some associations were undoubtedly either incidental or based on misidentification. Reports of non-solanaceous associations involve *Acer* (Aceraceae); *Amaranthus retroflexus* L., *A. spinosus* L. (Amaranthaceae); *Rhus* (Anacardiaceae); *Apium graveolens* L., *Daucus carota* L. (Apiaceae); *Apocynum* (Apocynaceae); *Ilex* (Aquifoliaceae); *Aralia nudicaulis* L. (Araliaceae); *Asclepias curassavica* L., *A. syriaca* L. (Asclepiadaceae); *Ambrosia*, *Arctium minus* (Hill) Bernh., aster [*Aster* or a similar genus], China-aster [*Callistephus chinensis* (L.) Benth.], *Carduus nutans* L., *Chromolaena odorata* (L.) R. M. King & H. Rob., *Cirsium arvense* (L.) Scop., *Cnicus*, *Erigeron spathulatus* Vahl. [*Conyza apurensis* Kunth], artichoke [*Cynara scolymus* L.], *Erigeron canadensis* L., *Helianthus annuus* L., *Iva xanthifolia* Nutt., *Lactuca sativa* L., *Solidago*, zinnia [*Zinnia*] (Asteraceae); *Heliotropium indicum* L., *Myosotis* (Boraginaceae); horseradish [*Armoracia rusticana* (Lam.) P. G. Gaertn., B. Mey., & Scherb.], *Brassica oleracea* L., *B. rapa* L., mustard [*Brassica* or a similar genus], *Lepidium virginicum* L., *Raphanus sativus* L. (Brassicaceae); *Humulus lupulus* L. (Cannabaceae); *Lonicera*, *Sambucus*, *Viburnum* (Caprifoliaceae); *Beta vulgaris* L., *Chenopodium album* L., *Kochia scoparia* (L.) Schrad., *Spinacia oleracea* L. (Chenopodiaceae); *Hypericum* (Clusiaceae); *Commelina communis* L. (Commelinaceae); *Calystegia sepium* (L.) R. Br., *Ipomoea batatas* (L.) Lam. (Convolvulaceae); *Citrullus lanatus* (Thunb.) Matsum. & Nakai, *Cucumis melo* L., *C. sativus* L., *Cucurbita maxima* Duchn. ex Lam., *C. moschata* (Duchn. ex Lam.) Duchn. ex Poir., *C. pepo* L. (Cucurbitaceae); *Arbutus*, *Epigaea repens* L., huckleberry [*Gaylussacia*], *Vaccinium* (Ericaceae); *Acalypha* (Euphorbiaceae); *Desmodium*, *Glycine hispida* (Moench) Maxim. [*G. max* (L.) Merr.], *Medicago sativa* L., *Melilotus*, *Phaseolus limensis* Macf. [*P. lunatus* L.], *P. vulgaris* L., *Pisum sativum* L., *Trifolium pratense* L. (Fabaceae); *Quercus palustris* Muenchh., *Q. rubra* L. (Fagaceae); *Aesculus hippocastanum* L. (Hippocastanaceae); *Leonurus sibiricus* L. (Lamiaceae); onion [*Allium*] (Liliaceae); flax [*Linum*] (Linaceae); *Sida carpinifolia* L. f. [*Malvastrum coromandelianum* (L.) Garcke] (Malvaceae); *Nelumbo pentapetala* (Walter) Fernald (Nelumbonaceae); *Fraxinus*, lilac [*Syringa*] (Oleaceae); *Oenothera biennis* L. (Onagraceae); *Argemone mexicana* L. [*A. ochroleuca* Sweet] (Papaveraceae); fir [*Abies*], spruce [*Picea*], white pine [*Pinus strobus* L.] (Pinaceae); *Plantago* (Plantaginaceae); *Zea mays* L. (Poaceae); *Phlox* (Polemoniaceae); *Polygonum acre* H. B. K. [*P. punctatum* Elliott], rhubarb [*Rheum rhabarbarum* L.], *Rheum raphaniticum* L., *Rumex* (Polygonaceae); *Portulaca oleracea* L. (Portulacaceae); primrose [*Primula*] (Primulaceae); *Reseda* (Resedaceae); *Crataegus punctata* Jacq., *Fragaria chiloensis* (L.) Duchn., *Pyrus malus* L. [*Malus sylvestris* P. Mill.], *Prunus pensylvanica* L. f., peach [*P. persica* (L.) Batsch], *Rubus* (Rosaceae); *Salix discolor* Muhl., *S. petiolaris* J. E. Sm. (Salicaceae); *Smilax* (Smilacaceae); *Tilia* (Tiliaceae); nettle [likely *Urtica*] (Urticaceae); and *Viola* (Violaceae) (Anonymous, 1956e, 1960d, 1961b, 1962j, 1963f, 1963g, 1963i, 1964f, 1964j, 1964l, 1966f, 1967h, 1968h; Balduf, 1923; Batra *et al.*, 1981; Beirne, 1971; Beller & Hatch, 1932; Beutenmüller, 1890a; Blatchley, 1923, 1924a; Borror *et al.*, 1989; Boulanger, 1960, 1966, 1967a, 1967b; Bray & Triplehorn, 1953; Britton, 1919; Bruner, 1891a, 1891b; Burbutis, 1959c, 1961b, 1962b, 1963a, 1963b; Burbutis & Buttram, 1962; Burbutis & Mason, 1960b, 1960c, 1960d, 1960e, 1960h, 1960o, 1960p, 1961b, 1961f, 1961i; Burbutis & Woodall, 1965a; Cameron, 1915; Canerday & Hollingsworth, 1965; Carr, 1988; Chittenden, 1904c, 1912b; Comstock, 1925; Comstock *et al.*, 1931; Crosby & Leonard, 1918; Dailey *et al.*, 1978; Daniels, 1937; Dearborn & Donahue, 1993; Dickerson & Weiss, 1920; Dorsey & Leach, 1956; Douglass, 1929; Duckett, 1920; Edwards, 1949; Essig, 1915b, 1958; Everly, 1938; Felt, 1902a; Forbes, 1905; Forbes & Hart, 1900; Fronk & Slater, 1956; Gibson, 1913, 1914; Hallock, 1939; Harrington, 1883; Harris, 1841, 1851, 1863; Hatch, 1924a; Hawley, 1918, 1925; Hill & Tate, 1942; Hoerner & Gillette, 1928; Hopkins & Rumsey, 1896; Horn, 1889; Hockett, 1932; Hyland, 1954a, 1954b; Johannsen, 1913; Johnson, 1927; Juester, 1967; King, 1967; King & Saunders, 1984; Kirk & Balsbaugh, 1975; Levesque & Levesque, 1998; Löding, 1945; Lugger, 1899; Lyon, 1962; MacGregor & Gutiérrez, 1983; Matheson, 1944; Mathewson, 1963; Mathewson & Colodney, 1967; Mathewson *et al.*, 1963; McCollum & Seibels, 1965; McDonald, 1968b; McQueen, 1963b; Milliron, 1958; Morihara & Balsbaugh, 1976; A. P. Morris, 1958; Needham *et al.*, 1928; Neiswander, 1931; Newton, 1929; Niemczyk & Guyer, 1963; Ode, 1972; Olson, 1963; Packard, 1877, 1888; Pirone, 1970; Popenoe, 1877; Proctor, 1938, 1946; Riley, 1869a; Riley & Enns, 1979; Rouse & Medvedev, 1972; Rutledge, 1966; Sanderson, 1899; Seibels & Wallace, 1963; Slingerland & Crosby, 1915; Smith, 1910a, 1943, 1967; Sohmer & Sefton, 1978; Stear, 1918; Steve & Stoner, 1956; Stewart, 1896; Stirrett, 1924, 1935; Stoner, 1957a, 1957b; Stoner & Orlob, 1962; Swenk & Tate, 1940; Turner, 1940; Walsh & Riley, 1868a, 1869e; Webster, 1881; C. M. Weed, 1895; Weigel & Baumhofer, 1948; Weiss, 1922b; Weiss & Dickerson, 1921; Wellhouse, 1922; Westcott, 1946; Wilcox, 1979; Wray, 1966).

Under experimental conditions, beetles have fed on *Iva xanthifolia* (Asteraceae); *Kochia scoparia* (Chenopodiaceae); hemp nettle [*Galeopsis tetrahii* L.], Oswego tea [*Monarda didyma* L.] (Lamiaceae); wood sorrel [*Oxalis*] (Oxalidaceae); bluets [*Houstonia*] (Rubiaceae); and basswood [*Tilia*] (Tiliaceae) (Hill, 1944; Johannsen, 1913). However, these non-solanaceous plants are probably not preferred hosts under natural conditions.

Beyond the above-mentioned records, *E. cucumeris* has been reported from western states and provinces, in association with bean [likely *Phaseolus vulgaris*] (Fabaceae); corn [*Zea mays*] (Poaceae); tomato [*Lycopersicon esculentum*], *Physalis francheti* Masters [*P. alkekengi* var. *francheti* (Mast.) Machino], ground cherry [*Physalis*], eggplant [*Solanum melongena*], and potato [*Solanum tuberosum*] (Solanaceae) (Cockerell, 1900; Fall & Cockerell, 1907; Glendenning, 1927; Hanson, 1933; Hoerner & Gillette, 1928; Knaus, 1904; Webster, 1932; Webster & Baker, 1929; Webster *et al.*, 1932). However, these records were almost certainly based on beetles other than true *E. cucumeris*.

Similarly, *E. cucumeris* has been reported from Latin America in association with *Cucumis anguria* L., *C. melo*, *C. sativus*, *Cucurbita moschata*, *Sicana* (Cucurbitaceae); *Ricinus* (Euphorbiaceae); *Glycine max*, *Vigna sinensis* (L.) Savi ex Hassk. [*V. unguiculata* Clav.] (Fabaceae); *Gossypium hirsutum* L. (Malvaceae); *Avena sativa* L., *Oryza*, sugarcane [*Saccharum officinarum* L.], *Zea* (Poaceae); *Fagopyrum esculentum* Moench (Polygonaceae); *Borreria verticillata* (L.) G. Meyer (Rubiaceae); grapefruit [*Citrus paradisi* Macfad.] (Rutaceae); *Capsicum annum*, *Lycopersicon esculentum*, *Nicotiana tabacum*, *Physalis angulata*, *Solanum melongena*, *S. torvum*, and *S. tuberosum* (Solanaceae) (Bechyné, 1997b; Bertels & Baucke, 1966; Bruner *et al.*, 1975; Cotton, 1918; Domínguez & Carrillo, 1976; Ebeling, 1959; Jolivet, 1979a; Jones, 1915; Maes & Staines, 1991; Martorell, 1976; Newton, 1929; Wolcott, 1936, 1951). However, these records may also have been based on misidentified beetles. In fact, many of the associations mentioned in the above paragraphs predate significant taxonomic treatment, and the identity of the beetles is therefore questionable.

Beyond the records mentioned above, Kirk (1970) reported “*Epithrix* prob. *cucumeris*” swept from alfalfa [*Medicago sativa*] (Fabaceae) and pasture grass [Poaceae]. However, sweeping records should not necessarily be interpreted as host associations.

***Epitrix fasciata* Blatchley.** Normal hosts are Solanaceae, this species having been reported from *Datura stramonium* L., *Lycopersicon esculentum* Mill., *Nicotiana tabacum* L., *Physalis angulata* L., *P. heterophylla* Nees, *Solanum nigrum* L. [a North American record, therefore probably *S. americanum* P. Mill.], *S. carolinense* L., *S. indicum* L., *S. melongena* L., *S. nigrescens* M. Martens & Galeotti, *S. nodiflorum* Jacq., *S. torvum* Sw., and *S. tuberosum* L. (Bechyné, 1997b; Carr, 1988; Clark, 2000; Flowers *et al.*, 1994; Gentner, 1924; Heikertinger, 1950; Jolivet, 2001; King & Saunders, 1984; Kirk, 1970; Martorell, 1976; Peck & Thomas, 1998; Takizawa, 2003; Virkki & Santiago-Blay, 1998; White & Barber, 1974; Wilcox, 1979; Wolcott, 1951). In previously unpublished investigations, we have collected adults from *Solanum erianthum* D. Don in southern Florida and from *S. triquetrum* Cav. in southern Texas.

Beetles have also been reported from *Conyza canadensis* (L.) Cronq. (Asteraceae), *Brassica* (Brassicaceae), *Cleome spinosa* Jacq. (Capparaceae), *Cucurbita* (Cucurbitaceae), *Abelmoschus esculentus* (L.) Moench (Malvaceae), *Prunus amygdalus* (L.) Batsch [*P. persica* (L.) Batsch] (Rosaceae), and *Citrus* (Rutaceae) (Carr, 1988; Flowers *et al.*, 1994; Martorell, 1976; White & Barber, 1974; Wilcox, 1979). Wolcott (1951) stated that beetles in Puerto Rico were sometimes abundant on leaves of sugarcane [*Saccharum officinarum* L.] (Poaceae), but he also noted that they did not eat this plant.

Various authors have reported the questionable synonym *E. parvula* (Fabricius) in association with Solanaceae, including *Atropa belladonna* L., *Capsicum annum* L., *C. pendulum* Willd. [*C. baccatum* var. *pendulum* (Willd.) Eshbaugh], *Datura meteloides* Dunal, *D. stramonium*, *Lycium vulgare* Dunal [*L. barbarum* L.], *L. pallidum* Miers, *Lycopersicon esculentum*, *Nicotiana tabacum*, *Physalis wrightii* A. Gray [*P. acutifolia* (Miers) Sandwith], *P. angulata*, *P. fendleri* A. Gray, *P. heterophylla*, *P. lanceolata* Michx., *P. peruviana* L., *P. pruniosa* L., *P. pubescens* L., *P. virginiana* P. Mill., *Solanum nigrum* [a North American record, therefore probably *S. americanum*], wonderberry [*S. burbankii* Bitter], *S. carolinense*, *S. elaeagnifolium* Cav., *S. indicum*, *S. marginatum* L. f., *S. melongena*, *S. rostratum* Dunal, *S. torvum*, and *S. tuberosum* (Abdullah & Qureshi, 1969; Bechyné, 1997a, 1997b; Beirne, 1971; Bertels & Baucke, 1966; Blatchley, 1924a; Brisley, 1925; Bruner *et al.*, 1975; Carr, 1988; Chamberlin & Tenhet, 1923, 1924; Chittenden, 1898c, 1899b, 1912b; Chittenden & Orton, 1923; Cotton, 1918; Cranshaw, 1992; Crosby & Leonard, 1918; Daniels, 1937; Dominick, 1939; Duckett, 1920; Edwards, 1949; Essig, 1915b, 1958; Fall & Cockerell, 1907; Fullaway & Krauss, 1945; Garman, 1892, 1896, 1921b; Gentner, 1924; Glass, 1940, 1943; Gossard, 1911; Gui, 1938; Hallock, 1939; Hopkins, 1897a; Hopkins & Rumsey, 1896; Howard, 1899a; Jaques, 1951; Jewett, 1926, 1929; Jones, 1915; Knowlton, 1939; Lacroix, 1935; Levin, 1940; Lugger, 1899; Metcalf, 1909; Metcalf & Underhill, 1919; Morgan, 1911; Morgan & Gilmore, 1924; Newton, 1929; Patch, 1913; Sanderson & Peairs, 1931; Schoene, 1938; Shands *et al.*, 1938; Stear, 1918; Stirrett, 1924; Thomas, 1943; Ulke, 1903; Westcott, 1946; Wolcott, 1936). However, most of these reports were based on misidentified specimens of *E. hirtipennis* (Melsheimer), the taxonomy of these two species often being confused in earlier literature.

Beyond Solanaceae, *E. parvula* has been reported from *Acer* (Aceraceae); *Amaranthus retroflexus* L. (Amaranthaceae); *Rhus* (Anacardiaceae); *Asclepias tuberosa* L. (Asclepiadaceae); *Ambrosia trifida* L., *Arc-tium lappa* L., *Aster*, *Cirsium arvense* (L.) Scop., *Cnicus*, *Conyza canadensis*, artichoke [*Cynara scolymus*

L.], *Erechtites hieraciifolia* (L.) Raf. ex DC., *Erigeron canadensis* L., *Eupatorium album* L., *Gnaphalium polycephalum* Michx. [*G. obtusifolium* L.], lettuce [*Lactuca*], *Solidago altissima* L., *S. juncea* Ait., *Xanthium canadense* Mill. [*X. strumarium* var. *canadense* (Mill.) Torr. & Gray], zinnia [*Zinnia*] (Asteraceae); *Campsis radicans* (L.) Seem. ex Bureau (Bignoniaceae); *Brassica oleracea* L., *B. rapa* L., *Sinapis arvensis* L. (Brassicaceae); *Stellaria media* (L.) Vill. (Caryophyllaceae); beet [*Beta vulgaris* L.], sugar beet [*Beta vulgaris*] (Chenopodiaceae); *Cleome spinosa* (Capparaceae); *Calystegia sepium* (L.) R. Br., *Ipomoea batatas* (L.) Lam., *I. coccinea* L., *I. hederacea* Jacq., *I. pandurata* (L.) G. F. W. Mey., *I. purpurea* (L.) Roth (Convolvulaceae); *Cucurbita* (Cucurbitaceae); *Oxydendrum arboreum* (L.) DC. (Ericaceae); *Acalypha* (Euphorbiaceae); soybean [*Glycine max* (L.) Merr.], *Lespedeza bicolor* Turcz., *L. cyrtobotrya* Miq., *L. juncea* (L.) Pers., *L. virginica* (L.) Britt., *Phaseolus limensis* Macf. [*P. lunatus* L.], *P. vulgaris* L., *Pueraria thunbergiana* (Sieb. & Zucc.) Benth. [*Pueraria montana* (Lour.) Merr.], *Robinia pseudoacacia* L., *Vigna sinensis* (L.) Savi ex Hassk. [*V. unguiculata* Clav.] Walp.] (Fabaceae); *Quercus* (Fagaceae); pecan [*Carya illinoensis* (Wang.) K. Koch], hickory [*Carya*] (Juglandaceae); *Salvia* (Lamiaceae); *Abutilon theophrasti* Medik. (Malvaceae); *Passiflora incarnata* L. (Passifloraceae); *Phytolacca americana* L. (Phytolaccaceae); *Pinus echinata* P. Mill., *P. strobus* L. (Pinaceae); plantain [*Plantago*] (Plantaginaceae); *Saccharum officinarum*, *Zea mays* L. (Poaceae); *Portulaca oleracea* L. (Portulacaceae); *Rumex acetosella* L. (Polygonaceae); almond [*Prunus dulcis* (Mill.) D. A. Webb], *Prunus amygdalus* [*P. persica*], wild plum [*Prunus*], *Rosa pratincola* Greene, *Rubus villosus* Thunb. [*R. corchorifolius* L. f.] (Rosaceae); *Citrus* (Rutaceae); and *Celtis mississippiensis* Bosc. [*C. laevigata* Willd.] (Ulmaceae) (Anonymous, 1961b; Bechyné, 1997a, 1997b; Bruner *et al.*, 1975; Crosby & Leonard, 1918; Deitz *et al.*, 1976; Duckett, 1920; Ebeling, 1959; Essig, 1915b, 1958; Fullaway & Krauss, 1945; Glass, 1940, 1943; Hallock, 1939; Hendrickson, 1930b; Jaques, 1951; Jolivet, 1979a; Knowlton, 1939; Metcalf & Underhill, 1919; Mohyuddin, 1969a; Morgan & Gilmore, 1924; Newton, 1929; Nickels, 1949; Stirrett, 1924, 1935; Westcott, 1946; Wolcott, 1936).

Under experimental conditions, “*E. parvula*” has fed, at least minimally, on many of the plants mentioned above and also on *Oenothera biennis* L. (Onagraceae) and *Viola* (Violaceae) (Glass, 1943; Metcalf & Underhill, 1919; Newton, 1929). Beetles apparently do sometimes utilize non-solanaceous plants, especially when their normal hosts are not readily available. Even so, some of the above-mentioned associations may have been purely adventitious. Whatever the case, most reports of *E. parvula* were based on *E. hirtipennis* rather than *E. fasciata*.

***Epitrix fuscata* Crotch.** This species normally feeds on Solanaceae, having been reported from *Datura stramonium* L., *Lycopersicon esculentum* Mill., *Nicotiana tabacum* L., *Physalis pubescens* L., *Solanum nigrum* L. [a North American record, therefore probably *S. americanum* P. Mill.], *S. carolinense* L., *S. dulcamara* L., *S. elaeagnifolium* Cav., *S. melongena* L., *S. rostratum* Dunal, and *S. tuberosum* L. (Abdullah & Qureshi, 1969; Bailey & Kok, 1978; Balsbaugh & Hays, 1972; Blatchley, 1910; Borror *et al.*, 1989; Burke, 1963; Cameron, 1915; Chittenden, 1898c, 1899b, 1902a, 1912b; Chittenden & Orton, 1923; Clark, 2000; Cranshaw, 1992; Crosby & Leonard, 1918; Douglass, 1929; Downie & Arnett, 1996; Duckett, 1920; Dudley *et al.*, 1952; Edwards, 1949; Garman, 1892, 1896, 1921b; Gentner, 1944; Goeden, 1971a; Hallock, 1939; Heikertinger, 1950; Jaques, 1951; Jewett, 1929; Löding, 1945; Lugger, 1899; Milliron, 1958; Newton, 1929; Papp, 1984; Patch, 1913; Radcliffe *et al.*, 1990; Riley & Enns, 1979; Rouse & Medvedev, 1972; Sanderson & Peairs, 1931; Shands & Landis, 1964; Smith, 1900, 1910a; Somes, 1916; Sorensen, 1994; Sorensen & Baker, 1983; Stear, 1918; Stirrett, 1924; Swan & Papp, 1972; Weese, 1925; Westcott, 1946; Wilcox, 1954, 1979).

Additionally, this beetle species has been reported from *Asclepias syriaca* L. (Asclepiadaceae); *Ambrosia*, *Arctium minus* (Hill) Bernh., *Cirsium*, *Cnicus*, *Lactuca sativa* L. (Asteraceae); *Corylus* (Betulaceae); *Cannabis sativa* L. (Cannabaceae); *Beta vulgaris* L. (Chenopodiaceae); *Ipomoea batatas* (L.) Lam. (Convolvulaceae); *Cucumis sativus* L. (Cucurbitaceae); *Cercis canadensis* L., soybean [*Glycine max* (L.) Merr.], lespedeza [*Lespedeza*], alfalfa [*Medicago sativa* L.], *Trifolium pratense* L., white clover [*T. repens* L.] (Fabaceae); *Gossypium* (Malvaceae); *Phytolacca americana* L. (Phytolaccaceae); corn [*Zea mays* L.] (Poaceae); *Fragaria chiloensis* (L.) Duchn., apple [*Malus sylvestris* P. Mill.] (Rosaceae); mullein [*Verbascum*] (Scrophulariaceae); and *Vitis* (Vitaceae) (Balsbaugh & Hays, 1972; Bickensstaff & Huggans, 1962; Blatchley, 1910; M. W. Brown, 1993; Chittenden, 1899b; Cleveland & Hamilton, 1959; Crosby & Leonard, 1918; Dailey *et al.*, 1978; Deitz *et al.*, 1976; Duckett, 1920; Hallock, 1939; Harris & Piper, 1970; Kirk, 1970; Kovalev, 1971; Lago & Stanford, 1989; Lee, 1949; Lugger, 1899; McGiffin & Neunzig, 1985; Niemczyk & Guyer, 1963; Rouse & Medvedev, 1972; Sorensen & Baker, 1983; Stirrett, 1924; Wilcox, 1979). However, these plants are probably not normal hosts, and some of the occurrences were likely incidental.

***Epitrix hirtipennis* (Melsheimer).** This species is associated with Solanaceae, having been recorded from *Capsicum frutescens* L. [*C. annuum* L.], *Datura stramonium* L., *Lycopersicon esculentum* Mill., *Nicotiana tabacum* L., *Petunia*, tomatillo [*Physalis ixocarpa* Hornem.], *Physalis peruviana* L., *P. pubescens* L., *Solanum nigrum* L. [a North American record, therefore probably *S. americanum* P. Mill.], *S. carolinense* L.,

S. dulcamara L., *S. elaeagnifolium* Cav., *S. melongena* L., *S. nigrum* L., *S. rostratum* Dunal, and *S. tuberosum* L. (Anonymous, 1962o, 1967b, 1967o, 1970o, 1977c; Au & Ikehara, 1966; Beirne, 1971; Borror *et al.*, 1989; Burke, 1963; Carr, 1988; Chittenden, 1898c; Clark, 2000; Cranshaw, 1992; Döberl, 1994b; Doguet, 1994; Dominick, 1943, 1971; Downie & Arnett, 1996; Dudley *et al.*, 1952; Elsey & Pitts, 1976; Fox & Stirrett, 1952; Gentile & Cuthbert, 1969; Gentile & Stoner, 1968a, 1968b; Gentner, 1944; Goeden, 1971a; Gourvès & Samuelson, 1979; Hatch, 1971; Heikertinger, 1950; Hicks, 1945; Hilburn & Gordon, 1989; Hill, 1946; Hill & Tate, 1944; Hunt & Baker, 1982; Ikehara, 1968; Jewett, 1955; Jolivet, 1998c, 2001; Jolivet & Verma, 2002; Kirk, 1969, 1970; Knowlton, 1954b, 1955a, 1955c, 1958a; Knowlton & Taylor, 1952; MacGregor & Gutiérrez, 1983; Martin & Herzog, 1987; Mau, 1974; Metcalf & Metcalf, 1993; Milliron, 1958; Morrison *et al.*, 1967; Peterson, 1960; Pirone, 1970; Rabb *et al.*, 1955; Radcliffe *et al.*, 1990; Riley & Enns, 1979; Rouse & Medvedev, 1972; Shands & Landis, 1964; Sorensen, 1994; Sorensen & Baker, 1983; White & Barber, 1974; Wilcox, 1979; Wolfenbarger, 1966). In previously unpublished investigations, we have collected adults of *E. hirtipennis* from *Datura wrightii* Regel in Utah. Also, we have identified a series (29 adults) labeled from Utah in association with *Nicotiana attenuata* Torr. *ex* Wats. Beyond natural associations, laboratory tests show that *E. hirtipennis* will also feed on the exotic plants *Lycopersicon glandulosum* C. H. Muller, *L. pimpinellifolium* (L.) Mill., and *L. peruvianum* (L.) Mill. (Gentile & Stoner, 1968b).

In addition to Solanaceae, *E. hirtipennis* has been reported from celery [*Apium*], carrot [*Daucus carota* L.] (Apiaceae); butterfly weed [*Asclepias tuberosa* L.] (Asclepiadaceae); giant ragweed [*Ambrosia trifida* L.], burdock [*Arctium*], thoroughwort [*Eupatorium*], common everlasting [*Gnaphalium* or *Helichrysum*], *Parthenium argentatum* A. Gray, goldenrod [*Solidago*], cocklebur [*Xanthium*] (Asteraceae); broccoli [*Brassica oleracea* L.] (Brassicaceae); *Beta vulgaris* L. (Chenopodiaceae); morning-glory [likely *Calystegia*, *Convolvulus*, or *Ipomoea*], sweet potato [*Ipomoea batatas* (L.) Lam.] (Convolvulaceae); cantaloupe [*Cucumis melo* L.] (Cucurbitaceae); soybean [*Glycine max* (L.) Merr.], bushclover [*Lespedeza*], lima bean [*Phaseolus lunatus* L.], bean [likely *Phaseolus vulgaris* L.], kudzu [*Pueraria montana* (Lour.) Merr.], cowpea [*Vigna unguiculata* Clav.] (Fabaceae); asparagus [*Asparagus officinalis* L.] (Liliaceae); cotton [*Gossypium*] (Malvaceae); fireweed [*Chamerion angustifolium* (L.) Holub] (Onagraceae); maypop [*Passiflora incarnata* L.] (Passifloraceae); pokeweed [*Phytolacca americana* L.] (Phytolaccaceae); *Piper nigrum* L. (Piperaceae); fescue grass [*Festuca* or *Vulpia*], *Zea mays* L. (Poaceae); purslane [*Portulaca*] (Portulacaceae); apple [*Malus sylvestris* P. Mill.] (Rosaceae); *Salix* (Salicaceae); and *Vitis rotundifolia* Michx. (Vitaceae) (Anonymous, 1959u, 1962e, 1963h, 1964g; Bickenstaff & Huggans, 1962; Burbutis, 1975; Burbutis & Crossan, 1964; Carr, 1988; Cleveland & Hamilton, 1959; Dominick, 1943; Flock, 1963; Hilburn & Gordon, 1989; Kirk, 1969, 1970; Knowlton, 1955b, 1955c; Knowlton & Taylor, 1952; MacGregor & Gutiérrez, 1983; McGiffin & Neunzig, 1985; Milliron, 1958; Stone & Fries, 1986; White & Barber, 1974; Wilcox, 1979). Additionally, while surveying the insects associated with *Gutierrezia microcephala* (DC.) A. Gray (Asteraceae), Foster *et al.* (1981) found “*Epitrix* sp. nr. *hirtipennis*” to be present although rare. Knowlton (1955c) reported *E. hirtipennis* from among the litter of blue spruce [*Picea pungens* Engelm.] (Pinaceae). However, this should not be considered a host association. In fact, none of these non-asteraceous plants are preferred hosts.

Numerous authors have reported *Epitrix parvula* (Fabricius), now considered a questionable synonym of *E. fasciata* Blatchley, from various plants (see discussion of *E. fasciata* above). Most of these reports were undoubtedly based on populations of *E. hirtipennis*, the taxonomy of these two species being confused in earlier literature.

***Epitrix humeralis* Dury.** This species is associated with Solanaceae, having been reported from *Physalis heterophylla* Nees, *P. longifolia* Nutt., *P. pubescens* L., *P. virginiana* P. Mill., and *Solanum nigrum* L. [a North American record, therefore probably *S. americanum* P. Mill.] (Bissell *et al.*, 1962; Clark, 2000; Downie & Arnett, 1996; Heikertinger, 1950; Hicks, 1945; Riley & Enns, 1979; Stirrett, 1924; Wilcox, 1954, 1979).

***Epitrix lobata* Crotch.** Chittenden (1899b) speculated that larvae feed on Solanaceae.

***Epitrix similis* Gentner.** Hosts are Solanaceae, this species having been recorded from *Lycopersicon esculentum* Mill., *Nicotiana*, *Solanum nigrum* L. [a North American record, therefore probably *S. americanum* P. Mill.], *S. melongena* L., and potato [*S. tuberosum* L.] (Anonymous, 1967u; Carr, 1988; Gentner, 1944). In previously unpublished investigations, we have associated *E. similis* in California with *Solanum douglasii* Dun.

Additionally, this beetle species has been reported from *Beta vulgaris* L. (Chenopodiaceae), Cucurbitaceae (genus not specified), bean [likely *Phaseolus vulgaris* L.] (Fabaceae), and avocado [*Persea americana* Mill.] (Lauraceae) (Carr, 1988; Gentner, 1944). Even so, these plants are probably not preferred hosts.

***Epitrix solani* (Blatchley).** This species is associated with *Solanum verbascifolium* Kunth (Solanaceae) (Blatchley, 1925; Flowers *et al.*, 1994; Peck & Thomas, 1998). Additionally, Flowers *et al.* (1994) and Peck & Thomas (1998) reported a series of “*Epitrix* sp., near *solani*” that was associated with *Physalis angustifolia* Nutt. (Solanaceae).

***Epitrix subcrinita* (LeConte).** Normal hosts are Solanaceae, this species having been recorded from *Capsicum frutescens* L. [*C. annuum* L.], *Datura meteloides* Dunal, matrimony vine [*Lycium*], *Lycopersicon esculentum* Mill., *Nicandra physalodes* (L.) P. Gaertn., *Nicotiana alata* Link & Otto, *Physalis francheti* Masters [*P. alkekengi* var. *francheti* (Mast.) Machino], *P. lobata* J. Torr., *P. longifolia* Nutt., *P. pubescens* L., *Solanum nigrum* L. [a North American record, therefore probably *S. americanum* P. Mill.], *S. carolinense* L., *S. dulcamara* L., *S. melongena* L., *S. rostratum* Dunal, *S. triflorum* Nutt., *S. tuberosum* L., and *S. villosum* Mill. (Abdullah & Qureshi, 1969; W. L. Baker, 1928; W. W. Baker, 1928; Beirne, 1971; Carr, 1988; Chittenden, 1899b; Crosby & Leonard, 1918; Davis & Landis, 1947; Dudley *et al.*, 1952; Dustan, 1932; Essig, 1915b, 1958; Essig & Hoskins, 1944; Fulton *et al.*, 1955; Gentner, 1944; Hanson, 1933; Hatch, 1971; Heikertinger, 1950; Jones, 1944; Knowlton, 1939, 1954b, 1955a, 1957a, 1958a; Knowlton & Taylor, 1952; Landis, 1948; MacCarthy, 1953; MacGregor & Gutiérrez, 1983; Morrison *et al.*, 1967; Neilson & Finlayson, 1953; Newton, 1929; Parker, 1910; Portman & Manis, 1954; Radcliffe *et al.*, 1990; Riley & Howard, 1891c; Shands & Landis, 1964; Stirrett, 1924; Webster, 1932; Webster & Baker, 1929; Webster *et al.*, 1932; Westcott, 1946). Presumably, Richman's (1892) report of "*Epitrix crinita*" from tomato [*Lycopersicon esculentum*] and potato [*Solanum tuberosum*] was also based on this beetle species. In previously unpublished investigations, we have identified a series of *E. subcrinita* (23 adult specimens) labeled from Utah in association with *Nicotiana attenuata* Torr. *ex* Wats.

Beyond Solanaceae, *E. subcrinita* has been reported from celery [*Apium*] (Apiaceae); radish [*Raphanus sativus* L.] (Brassicaceae); beet [*Beta vulgaris* L.], sugar beet [*Beta vulgaris*] (Chenopodiaceae); melon [likely *Citrullus lanatus* (Thunb.) Matsum. & Nakai or *Cucumis melo* L.], pumpkin [*Cucurbita*], squash [*Cucurbita*] (Cucurbitaceae); *Phaseolus vulgaris* L. (Fabaceae); *Juglans regia* L. (Juglandaceae); *Pseudotsuga menziesii* (Mirbel) Franco (Pinaceae); *Zea mays* L. (Poaceae); *Prunus* (Rosaceae); and willow [*Salix*] (Salicaceae) (Anonymous, 1962e, 1963c; Carr, 1988; Crosby & Leonard, 1918; Davis & Landis, 1947; Dustan, 1932; Essig, 1915b; Horning & Barr, 1970; Johnson, 1968g; Knowlton, 1930, 1955b, 1957a; Knowlton & Taylor, 1952; Landis, 1948, 1964c; Riley & Howard, 1891c; Stirrett, 1924; Webster & Baker, 1929; Webster *et al.*, 1932). Presumably, Richman's (1892) of "*Epitrix crinita*" in association with bean [likely *Phaseolus vulgaris*] was also based on this beetle species. Morrison (1961b) recorded "probably *Epitrix subcrinata* [sic]" infesting crucifers [Brassicaceae]. Under experimental laboratory conditions, a larva of *E. subcrinita* was reared to adulthood on *Cucurbita pepo* L. (Cucurbitaceae) (Landis, 1948).

Knowlton (1957a, 1957b) recorded *E. subcrinita* from the litter of blue spruce [*Picea pungens* Engelm.] and pinion pine [*Pinus edulis* Engelm.] (Pinaceae), but these should not be interpreted as host records. Additionally, W. L. Baker (1928) indicated that beetles overwinter in blackberry vines [*Rubus*] (Rosaceae), but he did not infer feeding upon this plant.

Plants other than Solanaceae are not preferred hosts. In fact, some of the above-mentioned associations were likely incidental, or they were based on misidentification.

***Epitrix tuberis* Gentner.** Both larvae and adults are especially well known for their often pestiferous relationship with *Solanum tuberosum* L. (Solanaceae) (Anonymous, 1959s; Banham & Finlayson, 1967; Beirne, 1971; Carr, 1988; Cranshaw, 1992; Davidson & Lyon, 1987; Davis & Landis, 1947; Dudley *et al.*, 1952; Fulton *et al.*, 1955; Gentner, 1944; Hatch, 1971; Heikertinger, 1950; Hill, 1945, 1946; Hill & Tate, 1944; Landis, 1948; Metcalf & Metcalf, 1993; Morrison *et al.*, 1967; Neilson & Finlayson, 1953; Papp, 1984; Radcliffe, 1982; Radcliffe *et al.*, 1990; Seeno & Andrews, 1972; Shands & Landis, 1964; Swan & Papp, 1972; Vernon *et al.*, 1990; Wallis, 1957; White, 1983).

This beetle species has also been associated with other Solanaceae, including *Capsicum frutescens* L. [*C. annuum* L.], *Datura meteloides* Dunal, *D. stramonium* L., *Lycium*, *Lycopersicon esculentum* Mill., *Nicandra physalodes* (L.) P. Gaertn., *Nicotiana alata* Link & Otto, *N. tabacum* L., *Petunia*, *Physalis francheti* Masters [*Physalis alkekengi* var. *francheti* (Mast.) Machino], *Physalis ixocarpa* Hornem., *P. lanceolata* Michx., *P. lobata* J. Torr., *P. longifolia* Nutt., *P. pruniosa* L., *P. pubescens* L., *Solanum nigrum* L. [a North American record, therefore probably *S. americanum* P. Mill.], *S. carolinense* L., *S. dulcamara* L., *S. melongena* L., *S. rostratum* Dunal, *S. triflorum* Nutt., and *S. villosum* Mill. (Anonymous, 1969t, 1969u; Beirne, 1971; Carr, 1988; Fulton *et al.*, 1955; Gentner, 1944; Hatch, 1971; Heikertinger, 1950; Hill, 1945, 1946; Hill & Tate, 1944; Landis, 1948; Morrison *et al.*, 1967; Neilson & Finlayson, 1953; Seeno & Andrews, 1972; Spackman, 1955; Vernon *et al.*, 1990; Wallis, 1952a, 1952b, 1953, 1955a, 1955b, 1957).

Beyond solanaceous hosts, *E. tuberis* has been reported from a variety of plants, especially when the normal solanaceous hosts were not readily available: *Iva xanthifolia* Nutt., *Lactuca sativa* L., *Taraxacum officinale* Weber *ex* F. H. Wiggers (Asteraceae); *Armoracia lapathifolia* Gilib. [*A. rusticana* (Lam.) P. G. Gaertn., B. Mey., & Scherb.], cabbage [*Brassica oleracea* L.], *Descurainia pinnata* (Walt.) Britt., *Raphanus sativus* L., *Brassica kaber* (DC.) L. C. Wheeler [*Sinapis arvensis* L.] (Brassicaceae); *Beta vulgaris* L., *Chenopodium album* L., *Kochia scoparia* (L.) Schrad., *Spinacia oleracea* L. (Chenopodiaceae); melon [likely *Citrullus*

Leaf Beetles and Associated Plants

lanatus (Thunb.) Matsum. & Nakai or *Cucumis melo* L.], cucumber [*Cucumis sativus* L.], marblehead squash [*Cucurbita maxima* Duchn. ex Lam.], pumpkin [*Cucurbita*] (Cucurbitaceae); *Medicago sativa* L., *Phaseolus vulgaris* L. (Fabaceae); *Ribes sativum* (Reichb.) Syme [*R. rubrum* L.] (Grossulariaceae); and *Alcea rosea* L. (Malvaceae) (Anonymous, 1955b, 1961b, 1968u, 1969t; Beirne, 1971; Carr, 1988; Fulton *et al.*, 1955; Gentner, 1944; Hill, 1945, 1946; Landis, 1948; Neilson & Finlayson, 1953). Additionally, hibernating beetles have been reported from moss [Bryophyta] (Davis & Landis, 1947), but this should not be interpreted as a food plant relationship.

***Erepsocassis rubella* (Boheman).** The host plant has not been recorded, but Riley *et al.* (2002) postulated that it belongs to the Convolvulaceae.

***Erynephala brighti* Blake.** This species has been reported from *Chenopodium* (Chenopodiaceae) (Blake, 1970a; Carr, 1988). In previously unpublished observations, we have associated beetles in California with *Salicornia europaea* L. (Chenopodiaceae).

***Erynephala maritima* (LeConte).** This species feeds on Chenopodiaceae, having been reported from *Beta vulgaris* L., *Chenopodium leptophyllum* (Moq.) Nutt. ex S. Wats., *Salicornia*, *Salsola*, and *Suaeda* (Blake, 1936b; Futuyma & McCafferty, 1990; Wilcox, 1979). In previously unpublished investigations, we have collected *E. maritima* from *Suaeda linearis* (Elliott) Moq. in coastal Louisiana, and we have seen a series of specimens labeled from coastal Texas in association with *Atriplex*. This beetle species is also associated with Bataceae, as we have collected series from *Batis maritima* L. while conducting previously unpublished field work in coastal Texas.

In spite of the fact that Beutenmüller (1890a) reported finding *E. maritima* in abundance on grass [Poaceae], this occurrence was probably incidental. Blatchley's (1924a) report of Floridian specimens of "*E. puncticollis* (Say)" swept from goldenrod [*Solidago*] (Asteraceae) and *Rhizophora mangle* L. (Rhizophoraceae) was probably based on misidentified specimens of *E. maritima* (LeConte), but associations with these plants were certainly incidental. Proctor's (1946) report of *E. maritima* from *Solidago maritima* Rouy (Asteraceae) was probably also based on an adventitious occurrence. In Puerto Rico, Virkki & Santiago-Blay (1997, 1998) recorded "*Erynephala* nr. *maritima*" from *Cordia stenophylla* Alain [*C. angustifolia* (West ex Willd.) Roem. & Schult.] (Boraginaceae).

***Erynephala morosa* (LeConte).** This species is reported to feed on Chenopodiaceae (Blake, 1936b). In previously unpublished investigations, we confirm this association, having collected beetles in California from *Salicornia*.

***Erynephala puncticollis* (Say).** This species is frequently associated with Chenopodiaceae, having been recorded from *Atriplex argentea* Nutt., *A. patula* L., *Beta vulgaris* L., *Chenopodium album* L., *Salsola kali* L., *Spinacia oleracea* L., *Suaeda depressa* (Pursh) S. Wats., *S. linearis* (Elliott) Moq., and *Dondia multiflora* (Torr.) A. Heller [*Suaeda torreyana* S. Watson] (Abdullah & Qureshi, 1968; Blake, 1936b; Böving, 1929; Carr, 1988; Chittenden, 1898e, 1903a, 1903b, 1903c, 1912b, 1921; Chittenden & Marsh, 1920a; Crosby & Leonard, 1918; Essig, 1915b, 1958; Forbes & Hart, 1900; Jolivet & Verma, 2002; Sanderson & Peairs, 1931; Westcott, 1946; Wilcox, 1965).

Additionally, *E. puncticollis* has been reported from *Amaranthus retroflexus* L. (Amaranthaceae), goldenrod [*Solidago*] (Asteraceae), *Sesuvium sessile* Pers. [*S. portulacastrum* (L.) L.] (Aizoaceae), *Erysimum repandum* L. (Brassicaceae), persimmon [*Diospyros*] (Ebenaceae), clover [likely *Trifolium*] (Fabaceae), *Rhizophora mangle* L. (Rhizophoraceae), and willow [*Salix*] (Salicaceae) (Barwood, 1962; Blatchley, 1924a; Buttram, 1962; Chittenden, 1921; Chittenden & Marsh, 1920a; Knowlton & Smith, 1935; Tanner, 1928; Wilcox, 1965). However, at least some of these occurrences were probably incidental. Chittenden (1921) and Chittenden & Marsh (1920a) stated that adults overwinter under tufts of *Panicum capillare* L. (Poaceae). However, they did not suggest that this is a food plant.

Many of the above-mentioned records predate the taxonomic work of Blake (1936b). Some of them were almost certainly based on beetle species other than true *E. puncticollis*.

***Eumolpus robustus* (Horn).** In Central America, this species has been associated with *Gonolobus*, *Sarcostemma bilobum* Hook. & Arn., and *S. glaucum* Kunth in H. B. K. (Asclepiadaceae) (Flowers & Janzen, 1997; Riley *et al.*, 2002). In Mexico, it has been recorded from *Parkinsonia aculeata* L. (Fabaceae) (Woods, 1992). However, this plant is probably not a normal host.

***Euphyrytus intermedius* Jacoby.** In Latin America, this species has been reported from *Glycine* (Fabaceae) and *Zea* (Poaceae) (Maes & Staines, 1991).

***Euphyrytus snowi* Schaeffer.** Schultz (1970) recorded material that was labeled from "willow-cottonwood" [*Salix* and *Populus*] (Salicaceae).

***Eusattodera pini* Schaeffer.** This species has been reported from *Pinus* (Pinaceae) (Schaeffer, 1906; Wilcox, 1965).

***Eusattodera thoracica* (Melsheimer).** This species has been recorded from apple [*Malus sylvestris* P.

Mill.], European plum [*Prunus domestica* L.], peach [*Prunus persica* (L.) Batsch], *Prunus virginiana* L., cherry [*Prunus*], and blackberry [*Rubus*] (Rosaceae) (Clark, 2000; Douglass, 1929; Downie & Arnett, 1996; Guyton, 1927; Wilcox, 1965, 1979). In previously unpublished observations, we have collected beetles in Kansas in association with *Prunus serotina* Ehrh. Beyond associations with Rosaceae, *E. thoracica* has been reported from lima bean [*Phaseolus lunatus* L.], common bean [*Phaseolus vulgaris* L.] (Fabaceae); *Juglans cinerea* L. (Juglandaceae); and willow [*Salix*] (Salicaceae) (Barrett, 1932; Douglass, 1929; Guyton, 1927; Hamilton, 1895).

***Exema byersi* Karren.** This species has been recorded from *Asclepias tuberosa* L. (Asclepiadaceae); *Echinacea angustifolia* DC., *Euthamia gymnospermoides* (Greene) Fernald, *Gutierrezia dracunculoides* (DC.) Hoffm. (Asteraceae); *Apios americana* Medik. (Fabaceae); and *Fraxinus pennsylvanica* Marsh. (Oleaceae) (Balsbaugh & Hays, 1972; Clark, 2000; Downie & Arnett, 1996; Jolivet, 1978; Jolivet & Hawkeswood, 1995; Karren, 1966; Riley & Enns, 1979; Wilcox, 1979). Of these plants, *E. gymnospermoides* is apparently the normal host, with records from *G. dracunculoides* possibly being based on misidentifications of this plant (Riley & Enns, 1979).

***Exema canadensis* Pierce.** This species is associated with Asteraceae, having been recorded from *Ambrosia*, *Aster*, *Erigeron quercifolius* Lam., *Euthamia graminifolia* (L.) Nutt., *Haplopappus phyllocephalus* DC., *Solidago altissima* L., *S. canadensis* L., *S. gigantea* Ait., *S. juncea* Ait., *S. neglecta* T. & G., *S. rugosa* P. Mill., *S. uliginosa* Nutt., *S. virga-aurea* L. [not a native plant, but reported from North America by early authors], and *Vernonia* (Balsbaugh & Hays, 1972; Brown, 1943; Cappuccino, 1991b; Clark, 2000; Downie & Arnett, 1996; Ellis & LeRoux, 1964; Erber, 1988; Hicks, 1944; Jolivet, 1978; Jolivet & Hawkeswood, 1995; Karren, 1966, 1970; LeSage, 1982; LeSage *et al.*, 1994; Maddox & Root, 1987, 1990; Messina & Root, 1980; Proctor, 1946; Riley & Enns, 1979; Root & Cappuccino, 1992; Root & Messina, 1983; Wilcox, 1979). Chagnon (1937) and Chagnon & Robert (1962) reported *E. gibber* (Fabricius) from “la Verge d’or” [*Solidago*]. However, according to Brown (1943), such reports were based on misidentified *E. canadensis*. Records maintained by the USDA-ARS Grassland, Soil and Water Research Laboratory state that adults of *E. canadensis* have been collected in Texas from *Grindelia papposa* Nesom & Suh, *Gutierrezia sarothrae* (Pursh) N. L. Britt. & Rusby, and *Xylothamia palmeri* (Gray) Nesom (Thomas O. Robbins, pers. comm.).

Beyond Asteraceae, *E. canadensis* has been recorded from *Betula*, *Corylus* (Betulaceae); *Sambucus canadensis* L. (Caprifoliaceae); *Cornus* (Cornaceae); *Fragaria*, *Prunus virginiana* L., *Rubus* (Rosaceae); *Salix* (Salicaceae); and *Ulmus* (Ulmaceae) (Balsbaugh & Hays, 1972; Downie & Arnett, 1996; Jolivet, 1978; Jolivet & Hawkeswood, 1995; Karren, 1966; Wilcox, 1979). Regarding such associations, Brown (1943) noted that mature larvae are inclined to wander and “pupae may be found occasionally on plants of any species growing in infested patches” of the true host plant.

***Exema conspersa* (Mannerheim).** This species is associated with Asteraceae, having been recorded from *Ambrosia acanthicarpa* Hook., *A. bipinnatifida* (Nutt.) Greene, *A. chamissonis* (Less.) Greene, *A. confertiflora* DC., *A. psilostachya* DC., *Artemisia californica* Less., *A. douglasiana* Besser, *A. heterophylla* Besser, *A. tridentata* Nutt., *Aster*, *Brickellia californica* (J. Torr. & A. Gray) A. Gray, *Encelia californica* Nutt., *Ericameria nauseosa* (Pall. ex Pursh) Nesom & Baird, *E. pinifolia* (A. Gray) H. M. Hall, *Eupatorium adenophorum* Spreng., *Flourensia cernua* DC., *Gnaphalium californicum* DC., *G. decurrens* L. [*G. viscosum* Kunth], *Hymenoclea monogyra* J. Torr. & Gray ex A. Gray, *Isocoma veneta* (Kunth) Greene, *Lepidospartum squamatum* A. Gray, and *Parthenium hysterophorus* L. (Beutenmüller, 1890a; Brown, 1943; Carr, 1988; Goeden & Ricker, 1974a, 1974b, 1975, 1976c; Hatch, 1971; Jolivet, 1978; Jolivet & Hawkeswood, 1995; Karren, 1966; Knowlton, 1939; McClay *et al.*, 1995; Moore, 1937; Pierce, 1940; Richerson & Boldt, 1995; Sweet, 1930; Townsend, 1902). Also, this beetle species has been reported from plants thought to be either *Haplopappus acradenius* (Greene) Blake or *H. venetus* (Kunth in H. B. K.) Blake (Carr, 1988). Additionally, “*Exema* prob. *conspersa*” from Mexico is reported to be common on *Parthenium hysterophorus* (McClay *et al.*, 1995).

Beyond Asteraceae, *E. conspersa* has been reported from *Astragalus* (Fabaceae) and *Quercus* (Fagaceae) (Carr, 1988; Karren, 1966; Moore, 1937; Pierce, 1940). However, these occurrences were likely adventitious.

***Exema deserti* Pierce.** This species has been recorded in association with *Ambrosia ambrosioides* (Cav.) Payne, *A. chenopodiifolia* (Benth.) W. W. Payne, *A. deltoidea* (Torr.) Payne, *A. dumosa* (A. Gray) W. W. Payne, *A. eriocentra* (Gray) Payne, *A. psilostachya* DC., *Baccharis halimifolia* L., *B. pteronioides* DC., *B. salicifolia* (Ruíz & Pav.) Pers., *B. salicina* J. Torr. & A. Gray, *B. sarothroides* A. Gray, *Bebbia juncea* (Benth.) E. L. Greene, *Dicoria canescens* A. Gray, *Gutierrezia microcephala* (DC.) A. Gray, *G. sarothrae* (Pursh) N. L. Britt. & Rusby, *Hymenoclea salsola* J. Torr. & A. Gray, and *Pluchea sericea* (Nutt.) Cov. (Asteraceae) (Bibby, 1961; Boldt & Robbins, 1990, 1994; Boldt & White, 1992; Boldt *et al.*, 1988; Carr, 1988; Goeden & Ricker, 1976a, 1976b, 1986a, 1989; Goeden & Teerink, 1993; Jolivet, 1978; Jolivet & Hawkeswood, 1995; Karren, 1966). It has also been reported from *Larrea divaricata* Cav. and *L. tridentata* (Sesse & Moçifio ex DC.) Coville (Zygophyllaceae) (Carr, 1988; Karren, 1966).

In previously unpublished investigations, we seen a large series of *E. deserti* labeled from California in association with *Lepidospartum squamatum* A. Gray (Asteraceae). Additionally, we have seen material labeled from Baja California in association with *Encelia farinosa* A. Gray (Asteraceae).

***Exema dispar* Lacordaire.** This species is associated with Asteraceae, having been recorded from *Achillea*, *Ambrosia psilostachya* DC., *A. trifida* L., *Bidens pilosa* L., *Chrysanthemum*, artichoke [*Cynara scolymus* L.], *Eupatorium album* L., “*Eupatorium drummondii*,” *E. fistulosum* Barratt, *E. maculatum* L., *Helianthus hirsutus* Raf., *H. tuberosus* L., *Silphium*, *Solidago*, and *Verbesina occidentalis* (L.) Walt. (Balsbaugh & Hays, 1972; Clark, 2000; Downie & Arnett, 1996; Jolivet, 1978; Jolivet & Hawkeswood, 1995; Karren, 1964, 1966; Proctor, 1938; Riley & Enns, 1979; Wilcox, 1979). Additionally, “*Exema* nr. *dispar*” has been reported from Mexico in association with *Parthenium hysterophorus* L. (McClay *et al.*, 1995).

Previously unpublished investigations provide additional asteraceous associations. We have collected adults of *E. dispar* from *Verbesina virginica* L. in Texas. Records maintained by the USDA-ARS Grassland, Soil and Water Research Laboratory state that an adult of this beetle species has been swept from foliage of *Baccharis salicifolia* (Ruíz & Pav.) Pers. in Webb County, Texas, and that an adult has been reared from a pupal case attached below a flower head of *Ratibida columnifera* (Nutt.) Woot. & Stan. in Live Oak County, Texas (Thomas O. Robbins, pers. comm.).

Brisley (1925) reported Arizona specimens of “*Exema conspersa* var. *dispar*” from *Hymenoclea monogyra* J. Torr. & Gray ex A. Gray (Asteraceae). However this was certainly based on misidentified beetles, *E. dispar* not occurring in Arizona.

Beyond Asteraceae, *E. dispar* has been reported from birch [*Betula*] (Betulaceae); *Brassica oleracea* L. (Brassicaceae); *Cercis occidentalis* Torr. ex Gray [*C. canadensis* var. *texasensis* (S. Wats.) M. Hopkins], mesquite [*Prosopis*] (Fabaceae); *Quercus virginiana* P. Mill. (Fagaceae); *Fragaria* (Rosaceae); and *Salix* (Salicaceae) (Dearborn & Donahue, 1993; Downie & Arnett, 1996; Karren, 1966; Ward *et al.*, 1977; Wilcox, 1979). Even so, these occurrences were likely incidental.

***Exema elliptica* Karren.** This species feeds on *Baccharis halimifolia* L. and *B. salicifolia* (Ruíz & Pav.) Pers. (Asteraceae) (Balsbaugh & Hays, 1972; Boldt & White, 1992; Jolivet, 1978; Jolivet & Hawkeswood, 1995; Jolivet & Verma, 2002; Palmer, 1987; Karren, 1966). In previously unpublished field work in east-central Texas, we have collected adults of this species, and larvae presumably belonging to this species, from plants that were likely hybrids of *B. halimifolia* and *B. salicina* J. Torr. & A. Gray. Under laboratory conditions, beetles have also fed on *B. neglecta* Britt. (Palmer, 1987).

Additionally, this beetle species has been reported from *Iva frutescens* L. (Asteraceae) (Balsbaugh & Hays, 1972; Downie & Arnett, 1996; Jolivet, 1978; Jolivet & Hawkeswood, 1995; Karren, 1966; Wilcox, 1979). However, according to Boldt & White (1992) and Palmer (1987), this was probably based on misidentified plants.

***Exema gibber* (Fabricius).** This species has been recorded from *Ambrosia*, *Aster*, *Baccharis halimifolia* L. (Asteraceae); *Opuntia* (Cactaceae); huckleberry [*Gaylussacia*] (Ericaceae); *Cercis canadensis* L. (Fabaceae); *Quercus* (Fagaceae); *Carya illinoensis* (Wangenh.) K. Koch (Juglandaceae); *Myrica cerifera* L. (Myricaceae); *Crataegus*, *Rubus* (Rosaceae); *Salix* (Salicaceae); and *Litchi chinensis* Sonn. (Sapindaceae) (Balsbaugh & Hays, 1972; Beutenmüller, 1890a; Blatchley, 1913, 1914, 1924a; Boldt & White, 1992; Brown, 1943, 1961; Clark, 2000; Dekle, 1957; Harris & Piper, 1970; Jolivet, 1978; Jolivet & Hawkeswood, 1995; Karren, 1966; Kovalev, 1971; Lago *et al.*, 2002; Lee, 1949; Palmer & Bennett, 1988; Pierce, 1940; Riley *et al.*, 2002; Wilcox, 1979).

This beetle species has also been reported from *Solidago* (Asteraceae) (Chagnon, 1937; Chagnon & Robert, 1962; Hatch, 1924b). However, according to Brown (1943), such reports were based on misidentified *E. canadensis* Pierce.

***Exema mormona* Karren.** This species has been recorded from *Artemisia tridentata* Nutt., *Gutierrezia microcephala* (DC.) A. Gray, and *G. sarothrae* (Pursh) N. L. Britt. & Rusby (Asteraceae) (Foster *et al.*, 1981; Karren, 1966, 1970). In previously unpublished investigations, we have collected adults from *Gutierrezia texana* (DC.) Torr. & Gray in southern Texas.

***Exema neglecta* Blatchley.** This species has been recorded from *Baccharis halimifolia* L., *Bigelowia virgata* (Nutt.) DC., *Eupatorium*, *Solidago* (Asteraceae); huckleberry [*Gaylussacia*] (Ericaceae); *Strophostyles helvula* (L.) Ell. (Fabaceae); and *Arundinaria* (Poaceae) (Balsbaugh & Hays, 1972; Blatchley, 1920a, 1924a; Boldt & White, 1992; Funk, 1999; Funk *et al.*, 1995; Jolivet, 1978; Jolivet & Hawkeswood, 1995; Karren, 1966; Kirk, 1970; Palmer & Bennett, 1988; Pierce, 1940). Likely, the occurrences on non-asteraceous plants were incidental.

***Fidia cana* Horn.** This species has been reported from *Vitis* (Vitaceae) (Felt, 1916; Sanderson, 1906; Strother, 1993). Material has also been labeled “grape + ivy” (Schultz, 1970; Strother, 1993), but the host was surely grape [*Vitis*] rather than ivy. In previously unpublished investigations, we have collected this

beetle species from *V. arizonica* Englem. in western Texas, and from *V. candicans* Engelm. *ex* A. Gray in central Texas.

***Fidia clematis* Schaeffer.** Series of this species have been collected from *Cissus incisa* auct. non Des Moulins [*C. trifoliata* (L.) L.] (Vitaceae) (Strother, 1993).

***Fidia confusa* Strother.** This species has been reported in association with grape [*Vitis*] (Vitaceae) (Bruner, 1895; Schultz, 1970; Strother, 1993; Webster, 1894). Strother (1993) rightly regarded a record from cotton [*Gossypium*] (Malvaceae) as adventitious.

***Fidia humeralis* Lefèvre.** This species has been reported from *Parthenocissus quinquefolia* (L.) Planch. and *Vitis arizonica* Englem. (Vitaceae) (Schaeffer, 1905; Schwarz, 1899; Strother, 1993). Strother (1993) rightly considered a record from *Cupressus* (Cupressaceae) to be adventitious.

***Fidia longipes* (Melsheimer).** Hosts are Vitaceae, this species having been reported from *Ampelopsis arborea* (L.) Koehne, *Parthenocissus quinquefolia* (L.) Planch., Norton's Virginia grape [*Vitis aestivalis* Michx.], *Vitis labrusca* L., post oak grape [*V. lincecumii* Buckley], *V. rotundifolia* Michx., and *V. vulpina* L. (Blatchley, 1910; Bruner, 1895; Clark, 2000; Comstock, 1925; Comstock *et al.*, 1931; Douglass, 1929; Downie, 1957; Downie & Arnett, 1996; Felt, 1902c, 1903; Hamilton, 1895; Isely, 1930, 1942; Jaques, 1951; Johnson & Hammar, 1910; Lugger, 1899; McGiffin & Neunzig, 1985; Popenoe, 1877; Riley & Enns, 1979; Schultz, 1970; Smith, 1900, 1910a; Strother, 1993; Ulke, 1903; Walsh, 1867c; Webster, 1894, 1895a; Wilcox, 1954, 1979).

Beetles have also been reported from *Ilex opaca* Soland. in Ait. (Aquifoliaceae); *Cercis canadensis* L., soybean [*Glycine max* (L.) Merr.], bean [likely *Phaseolus vulgaris* L.] (Fabaceae); and *Salix* (Salicaceae) (Bruner, 1895; Douglass, 1929; Lee, 1949; Schultz, 1970; Strother, 1993). However, these occurrences were probably incidental. Moreover, some, but not all, of the above-mentioned associations were apparently based on misidentification (Strother, 1993).

***Fidia texana* Schaeffer.** This species has been recorded from *Vitis mustangensis* Buckl. [*V. candicans* Engelm. *ex* A. Gray] (Strother, 1993).

***Fidia viticida* Walsh.** Hosts are Vitaceae, associations having been reported for *Ampelopsis arborea* (L.) Koehne, *A. cordata* Michx., *Parthenocissus quinquefolia* (L.) Planch., *Vitis longii* W. R. & B. Prince [*V. acerifolia* Raf.], *V. solonis* Planch. [*V. acerifolia*], *V. aestivalis* Michx., *V. labrusca* L., *V. riparia* Michx., *V. rotundifolia* Michx., *V. rupestris* Scheele, and *V. vulpina* L. (Blatchley, 1910; Bruner, 1895; Clark, 2000; Davidson & Lyon, 1987; Demaree & Runner, 1942; Dennehy & Clark, 1987; Dillon & Dillon, 1961; Downie, 1957; Downie & Arnett, 1996; Felt, 1902a, 1902c, 1903, 1909; Flowers, 1996; Harrington, 1883; Hartzell, 1915, 1918; Isely, 1930, 1942; Jaques, 1951; Johnson, 1908; Johnson & Hammar, 1910; Lawson, 1991; Löding, 1945; Lugger, 1899; Marlatt, 1896, 1898; McGiffin & Neunzig, 1985; McGrew & Still, 1977; Metcalf & Metcalf, 1993; Mills & Dewey, 1934; Mills & LaPlante, 1952; Nixon, 1905; Packard, 1888; Papp, 1984; Peterson, 1960; Pettit, 1929; Quaintance, 1912; Quaintance & Shear, 1907; Quayle, 1908b; Riley, 1869b; Riley & Enns, 1979; Rouse & Medvedev, 1972; Sanderson & Peairs, 1931; Schultz, 1970; Slingerland, 1900; Slingerland & Craig, 1902; Slingerland & Crosby, 1915; Smith, 1900, 1910a, 1943; Still & Rings, 1973; Strother, 1993; Swan & Papp, 1972; Ulke, 1903; Walsh, 1867b, 1867c; Webster, 1894, 1895a; Westcott, 1946; Whitcomb & Guba, 1943; Wilcox, 1954, 1979). In previously unpublished field work, we have collected adults from *Vitis candicans* Engelm. *ex* A. Gray in Texas.

Beyond associations with Vitaceae, *F. viticida* has been recorded from English ivy [*Hedera helix* L.] (Araliaceae); *Asclepias syriaca* L. (Asclepiadaceae); *Cercis canadensis* L., soybean [*Glycine max* (L.) Merr.], alfalfa [*Medicago sativa* L.] (Fabaceae); cotton [*Gossypium*], hibiscus [*Hibiscus*] (Malvaceae); corn [*Zea mays* L.] (Poaceae); and multiflora rose [*Rosa multiflora* Thunb. *ex* Murr.] (Rosaceae) (Dailey *et al.*, 1978; Dennehy & Clark, 1987; Felt, 1902c, 1903; Johnson & Hammar, 1910; Lee, 1949; Packard, 1888; Quaintance & Shear, 1907; Riley, 1869b; Rouse & Medvedev, 1972; Slingerland, 1900; Strother, 1993; Webster, 1894, 1895a). However, in spite of mention of feeding on some plants, these associations were likely incidental. Additionally, Walker (1936) reported material swept from foliage of *Helianthus* (Asteraceae), but this should not be interpreted as a host association.

***Fidia* spp.** In his unpublished thesis, Strother (1993) recognized numerous new species. He recorded material labeled from the United States in association with *Ampelopsis arborea* (L.) Koehne, *Parthenocissus quinquefolia* (L.) Planch., *Vitis aestivalis* Michx., *V. mustangensis* Buckl. [*V. candicans* Engelm. *ex* A. Gray], *V. lincecumii* Buckley, and *V. rotundifolia* Michx. (Vitaceae). Specimens were also reported from *Gaillardia* (Asteraceae); locust [*Gleditsia* or *Robinia*], clover [likely *Trifolium*] (Fabaceae); cotton [*Gossypium*] (Malvaceae); and nettle [likely *Urtica*] (Urticaceae). However, these non-vitaceous occurrences were likely incidental.

***Floridocassis repudiata* (Suffrian).** This species has been reported from Convolvulaceae (Balsbaugh & Hays, 1972; Borowiec, 1999; Riley, 1986a; Takizawa, 2003). Indeed, Riley *et al.* (2002) stated that it breeds on *Ipomoea sagittata* Poir.

Leaf Beetles and Associated Plants

Beyond Convolvulaceae, Blatchley (1920a, 1928) recorded material from Spanish moss [*Tillandsia usneoides* (L.) L.] (Bromeliaceae) and grass [Poaceae]. However, it is extremely doubtful that these are food plants.

***Galeruca browni* Blake.** This species normally feeds on Brassicaceae. It has been recorded from alyssum [*Alyssum*, *Berteroa*, *Lobularia*, or a similar genus], *Arabis*, cabbage [*Brassica oleracea* L.], turnip [*Brassica rapa* L.], *Lepidium*, radish [*Raphanus sativus* L.], and tumbling mustard [*Sisymbrium altissimum* L.] (Beirne, 1971, Blake, 1945; Wilcox, 1965).

The Old World species *Galeruca pomonae* Scopoli has been reported from North America in association with *Dentaria laciniata* Muhl. ex Willd. [*Cardamine concatenata* (Michx.) O. Schwarz] (Brassicaceae) (Blatchley, 1910; Davis, 1907). This was likely based on populations of *G. browni*. However, some of the observations were made in Illinois, somewhat beyond the normally recognized range of *G. browni*.

Beyond Brassicaceae, *G. browni* has been reported to attack *Salsola kali* L. (Chenopodiaceae); alfalfa [*Medicago sativa* L.], clover [likely *Trifolium*] (Fabaceae); corn [*Zea mays* L.] (Poaceae); and strawberry [*Fragaria*] (Rosaceae) (Beirne, 1971; Blake, 1945). As suggested by Blake (1945), beetles may sometimes be so numerous that they can be found on practically everything in the proximity of their normal brassicaceous hosts.

***Galeruca costatissima* Blake.** In previously unpublished investigations, Robert C. Mower has associated this species with *Cardaria draba* (L.) Desv. (Brassicaceae) in Utah. He has shown us severely damaged plants, as well as numerous beetle specimens.

***Galeruca externa* Say.** This species is reported to feed on *Phlox divaricata* L. (Polemoniaceae) (Blake, 1945; Downie & Arnett, 1996; Riley & Enns, 1979; Wilcox, 1954, 1965, 1979). Moreover, the Old World species *G. pomonae* Scopoli has been recorded from North America in association with *P. divaricata* (Blatchley, 1910; Davis, 1907), and these reports were almost certainly based on populations of *G. externa*.

Beyond this, *G. externa* has been reported from *Arabis*, cabbage [*Brassica oleracea* L.], turnip [*B. rapa* L.], *Dentaria laciniata* Muhl. ex Willd. [*Cardamine concatenata* (Michx.) O. Schwarz], *Lepidium*, and tumbling mustard [*Sisymbrium altissimum* L.] (Brassicaceae) (Criddle, 1911, 1912, 1913; Downie & Arnett, 1996; Dustan, 1932; Riley & Enns, 1979; Wilcox, 1954). However, these associations were likely based on populations of *G. browni* Blake rather than *G. externa*. Similarly, *G. externa* has been reported from lupine [*Lupinus*] (Fabaceae) (Keen, 1938, 1952; Putnam, 1876), but this was probably based on populations of *G. rudis* LeConte.

Keen (1938, 1952) recorded *G. externa* from Oregon feeding on grass [Poaceae]. However, this report was surely in error, both in the identity of the beetles and in the host association. A North American record of the European species “*Adimonia tanacetii*” from potato [*Solanum tuberosum* L.] (Solanaceae) may possibly have been based *G. externa* (see Patch, 1913). If so, this association was surely incidental.

***Galeruca rudis* LeConte.** Hosts are species of *Lupinus* (Fabaceae), including *L. arboreus* Sims and *L. parviflorus* Nutt. ex Hook. & Arn. [*L. argenteus* Pursh] (Blake, 1945; Carr, 1988; Hatch, 1971; Jones, 1972; Kirk & Balsbaugh, 1975; Larson, 1965; Wilcox, 1965). In previously unpublished observations, George Poinar (pers. comm.) has associated *G. rudis* with *L. littoralis* Dougl. in Oregon.

This beetle species has also been reported in association with turnip [*Brassica rapa* L.] (Brassicaceae) (Hatch, 1971), but this may have been based on misidentified *G. browni* Blake. Beyond this, *G. rudis* has been collected from wild parsley [*Lomatium*, *Petroselinum*, *Pteryxia*, or a similar genus] (Apiaceae), *Franseria* (Asteraceae), and *Dryas drummondii* Richards. ex Hook. (Rosaceae) (Blake, 1945; Wilcox, 1965), but these associations were probably incidental. Additionally, Kirk & Balsbaugh (1975) reported material collected from under dry cow dung in sod [Poaceae], but they did not suggest that this was indicative of a food plant relationship.

***Galerucella bivittata* Blatchley.** Although this taxon is thought to be a species of *Ophraella* or *Tricholochmaea*, its identity is uncertain. Blatchley (1920a, 1924a) reported material swept from huckleberry blossoms [*Gaylussacia*] (Ericaceae). Wilcox (1965) questionably listed “*Ophraella bivittata*” from *Gaylussacia*, but this was probably based on Blatchley’s sweeping reports. If this plant is indeed the true host, the beetles probably belong in the genus *Tricholochmaea* rather than *Ophraella* (see LeSage, 1986b).

***Galerucella nymphaeae* (Linnaeus).** This species, including Old World populations, has been reported from *Sagittaria sagittifolia* L. (Alismataceae); *Alnus tenuifolia* Nutt. (Betulaceae); *Phaseolus* (Fabaceae); *Ribes* (Grossulariaceae); *Hydrocharis* (Hydrocharitaceae); *Brasenia schreberi* J. F. Gmel. (Hydrophylloideae); *Mentha* (Lamiaceae); *Lythrum salicaria* L. (Lythraceae); *Myrica caroliniensis* Mill. [*M. cerifera* L.], *M. gale* L., *M. pensylvanica* Mirb. (Myricaceae); *Nuphar lutea* (L.) Sm., *N. polysepala* Engelm., *N. variegatum* Engelm., *Nymphaea alba* L., *N. candida* C. Presl., “*N. gladstoniana*,” *N. odorata* Ait., *N. sagittata* Pers., *N. stellata* Willd., *N. tetragona* Georgi, *N. marliacea* Hort. Latour-Marliac [*N. tuberosa* Paine] (Nymphaeaceae); *Oenothera* (Onagraceae); broomsedge [*Andropogon virginicus* L.] (Poaceae); *Polygonum amphibium* L., *P.*

hydropiperoides Michx., *P. lapathifolium* L., *P. natans* (Michx.) Eat., *P. pensylvanicum* L., *P. persicaria* L., rhubarb [*Rheum rhabarbarum* L.], *Rumex crispus* L., *R. hydrolapathum* Huds. (Polygonaceae); *Potamogeton natans* L. (Potamogetonaceae); *Lysimachia thyrsoflora* L., *L. vulgaris* L. (Primulaceae); *Alchemilla vulgaris* L., *Comarum palustre* L., *Filipendula ulmaria* (L.) Maxim., *Fragaria* x *ananassa* Duchn., *Geum rivale* L., *Potentilla palustris* (L.) Scop., *Rubus arcticus* L., *R. chamaemorus* L., *R. saxatilis* L. (Rosaceae); basket willow [*Salix purpurea* L. or *S. viminalis* L.] (Salicaceae); *Trapa natans* L. (Trapaceae); and *Ulmus* (Ulmaceae) (Abdullah & Qureshi, 1968; Andrews, 1923; Bayer & Brockmann, 1975; Beenen, 1992; Beller & Hatch, 1932; Beutenmüller, 1890a; Blake, 1952; Blatchley, 1910, 1919, 1924a; Bolser & Hay, 1998; Böving, 1929; Brigham, 1982; Brimley, 1938; Carr, 1988; Cassani, 1981; Chagnon, 1917, 1938; Chagnon & Robert, 1962; Chittenden, 1905b; Clark, 2000; Cronin *et al.*, 1998, 1999; Dearborn & Donahue, 1993; Dickerson & Weiss, 1920; Dillon & Dillon, 1961; Downie & Arnett, 1996; Fabricius, 1792, 1801; Fall, 1924; Feldman, 2001; Furth, 1993; Gressitt & Kimoto, 1963; Hamilton, 1894a, 1894b, 1895; Harrington, 1883; Hatch, 1971; Hippa & Koponen, 1986; Jaques, 1951; Johnson, 1927; Jolivet, 1987a, 2003; Jolivet & Hawkeswood, 1995; Jolivet & Verma, 2002; Hippa & Koponen, 1975; Judd, 1949; Juliano, 1988; Kaufmann, 1970; Kelley, 1985; Kippenberg & Döberl, 1994; Kirk, 1969; Kirk & Balsbaugh, 1975; Kouki, 1991a, 1991b, 1991c, 1993a, 1993b; La Rivers, 1951; Larson, 1987; Lawson, 1991; Leech & Chandler, 1956; Linnaeus, 1758; Lohse, 1989; Lovell, 1915; MacGillivray, 1903; Manguin *et al.*, 1993; McGaha, 1952; Mohr, 1966; Morris, 1914a, 1914b; Mutchler & Weiss, 1926; Needham, 1908; Nokkala & Nokkala, 1989, 1994, 1998; Nokkala *et al.*, 1998; Olivier, 1808; Otto & Wallace, 1989; Packard, 1888, 1890; Papp, 1984; Pappers *et al.*, 2001; Paterson, 1931; Peck & Thomas, 1998; Pennak, 1953; Peterson, 1960; Pirone, 1970; Proctor, 1938, 1946; Quilter, 1887; Riley & Enns, 1979; Riley *et al.*, 2002; Scott, 1924; Servadei, 1938; Setälä & Mäkelä, 1991; Silfverberg, 1994; Smirnov, 1960; Smith, 1900, 1910a; Steinhausen, 1996; Swan & Papp, 1972; Tauber *et al.*, 1996; Ulke, 1903; Verdyck, 1998; Vig, 1997; Wallace & O'Hop, 1985; Weigel & Baumhofer, 1948; Weiss, 1922a; Weiss & West, 1920; Whelan, 1936; Wilcox, 1954, 1965, 1979; Wilson, 1928; Woods, 1924).

Additionally, an Alaskan population of “a leaf beetle (possibly *Galerucella nymphaeae*)” has been reported damaging strawberry [*Fragaria*] and raspberry [*Rubus*] (Rosaceae) (Anonymous, 1965c). In Oregon, beetles thought to probably be *G. nymphaeae* have been recorded from squash [*Cucurbita*] (Cucurbitaceae); bean [likely *Phaseolus vulgaris* L.] (Fabaceae); geranium [*Geranium*] (Geraniaceae); rhubarb [*Rheum rhabarbarum*] (Polygonaceae); strawberry [*Fragaria*], rose [*Rosa*], raspberry [*Rubus*] (Rosaceae); and potato [*Solanum tuberosum* L.] (Solanaceae) (Every, 1958).

Wilson (1928) reported numerous adults of *G. nymphaeae* from the dead stems of *Spiraea aruncus* L. [*Aruncus sylvestris* Kostel ex Maxim.] (Rosaceae). However, these were considered to be merely overwintering sites.

Under experimental conditions, at least minor feeding by *G. nymphaeae* was reported on several of the plants mentioned above, as well as on *Alnus rugosa* (Du Roi) Spreng. [*A. incana* ssp. *rugosa* (Du Roi) Clausen] (Betulaceae) (Cronin *et al.*, 1998, 1999).

Of the above-mentioned plants, *Brasenia*, *Nuphar*, and *Polygonum* are normal hosts. Populations feeding on *Myrica* may eventually be proven to belong to a separate species. In fact, beetles historically recognized as *G. nymphaeae* may well represent several sibling species, with true *G. nymphaeae* not occurring in North America at all. Whatever the case, beetles are apparently sometimes so numerous that they leave their normal hosts and may temporarily feed on other plants. Even so, some of the recorded associations were probably purely incidental.

Baker (1895) reported larvae of *Galeruca marginella* Kirby, currently considered a synonym of *G. nymphaeae*, mining the leaves of *Chenopodium* (Chenopodiaceae). However, this report is likely based on misidentified *Monoxia*. Luger (1899) reported *Adimonia femoralis* (Melsheimer), also considered to be a synonym of *G. nymphaeae*, from *Prunus pensylvanica* L. f., peach [*P. persica* (L.) Batsch], and plum [*Prunus*] (Rosaceae), but these associations were clearly based on confusion with *Tricholochmaea cavicollis* (LeConte).

***Gastrophysa cyanea* Melsheimer.** Normal hosts are species of *Rumex* (Polygonaceae), beetles having been reported from *R. altissimus* Wood, *R. britannica* L., *R. crispus* L., *R. hymenosepalus* J. Torr., *R. obtusifolius* L., *R. patientia* L., *R. salicifolius* Weinm., and *R. verticillatus* L. (Balsbaugh & Hays, 1972; Beutenmüller, 1890a; Blatchley, 1910; Brisley, 1925; Carr, 1920; Clark, 2000; Dillon & Dillon, 1961; Douglass, 1929; Downie & Arnett, 1996; Edwards, 1949; Essig, 1915b, 1958; Force, 1966b; Girault, 1908; Goe, 1918; Hamilton, 1895; Hatch, 1971; Horning & Barr, 1970; Huffaker, 1959; Jenkins *et al.*, 1966; Jolivet, 1951a; Kirk & Balsbaugh, 1975; Lawson, 1950, 1991; Moore, 1937; Peck & Thomas, 1998; Popenoe, 1877; Puttler & Long, 1983; Riley & Enns, 1979; Rouse & Medvedev, 1972; Russell, 1968; Schaeffer, 1928a; Smith, 1900, 1910a; Tanner & Nielsen, 1954; Ulke, 1903; Wickham, 1902; Wilcox, 1954, 1979; Wray, 1967). In previously unpublished field work in Utah, we have collected *G. cyanea* from *R. venosus* Pursh.

This beetle species has also been reported in association with *Polygonum*, rhubarb [*Rheum rhabarbarum* L.], and *Rheum rhaponticum* L. (Polygonaceae) (Anonymous, 1961k, 1965c; Carr, 1988; Dillon & Dillon, 1961; Downie & Arnett, 1996; Essig, 1915b, 1958; Goe, 1918; Hatch, 1971; Jaques, 1951; La Quey & Hantsbarger, 1962; Lawson, 1950; Staines & Staines, 1989; Wilcox, 1954, 1972, 1979).

Under experimental conditions, *G. cyanea* has accepted some of the plants mentioned above, as well as the polygonaceous plants *Fagopyrum esculentum* Moench, *Muehlenbeckia*, *Polygonum affine* D. Don, *P. arifolium* L., *P. aviculare* L., *P. capitatum* Ham. ex D. Don, *P. cuspidatum* Sieb. & Zucc., *P. pennsylvanicum* L., *P. reynoutria* Makino, *Rheum officinale* Baill., *Rumex acetosella* L., *R. californicus* Rech. f., and *R. pulcher* L. (Force, 1966b; Jolivet, 1951b; Staines & Staines, 1989). However, development on some of these plants was comparatively poor.

Beyond Polygonaceae, this beetle species has been recorded from sumac [*Rhus*] (Anacardiaceae); sweet-clover [*Melilotus*] (Fabaceae); *Gossypium arboreum* L., *G. barbadense* L., *G. thurberi* Todaro (Malvaceae); almond [*Prunus dulcis* (Mill.) D. A. Webb], prune tree [*Prunus*] (Rosaceae); willow [*Salix*] (Salicaceae); and *Vitis* (Vitaceae) (Abdullah & Qureshi, 1969; Anonymous, 1961k; Carr, 1988; Clark, 2000; Douglass, 1929; Essig, 1915b, 1958; Felt, 1907; Hopkins, 1893; Jenkins *et al.*, 1966; Jolivet, 1951b; Kirk & Balsbaugh, 1975; Weiss & Dickerson, 1921). Even so, these plants are not normal hosts, and at least some of the associations were surely either incidental or based on misidentified insects.

***Gastrophysa dissimilis* (Say).** In modern treatments, this species has been reported in association with *Polygonum*, *Rumex crispus* L., and *R. verticillatus* L. (Polygonaceae) (Jolivet, 1951b; Riley & Enns, 1979). Additionally, Wilcox (1972) listed it from a species of *Polygonum*, questionably identified as *P. punctatum* Elliott. In previously unpublished field work, we have found *G. dissimilis* feeding on *Polygonum amphibium* var. *emersum* Michx. in Missouri.

Foster *et al.* (1981) found adults of *G. dissimilis* while surveying the insects associated with *Gutierrezia sarothrae* (Pursh) N. L. Britt. & Rusby (Asteraceae), but they indicated that the beetles were rare. This plant should not be considered a host.

In mostly earlier treatments, *G. dissimilis* has also been reported from *Rumex crispus*, as well as from rhubarb [*Rheum rhabarbarum* L.] (Polygonaceae) (Baker, 1895; Beller & Hatch, 1932; Essig, 1958; McCracken, 1906; Wickham, 1902). Unfortunately, some authors did not distinguish the various species of *Gastrophysa*, and certain of these plant associations may actually have been based on species other than true *G. dissimilis*. Reports of *G. dissimilis* attacking almond [*Prunus dulcis* (Mill.) D. A. Webb] (Rosaceae) (Beller & Hatch, 1932) were also likely based on misidentified beetles, perhaps on misidentified *Altica*. Powell (1932) recorded *G. dissimilis* from *Grindelia squarrosa* (Pursh) Dun. (Asteraceae), but this association was surely incidental. Douglass (1929) reported sweeping *G. dissimilis* from oats [*Avena*] and wheat [*Triticum*] (Poaceae), but these plants should not be regarded as hosts.

***Gastrophysa formosa* (Say).** This species has been associated with *Rheum*, *Rumex hymenosepalus* J. Torr., and *R. venosus* Pursh (Polygonaceae) (Beutenmüller, 1890a; Chittenden, 1895a; Jolivet, 1951b; Riley & Howard, 1889c; Wickham, 1902; Wilcox, 1972). North American workers have also recorded the Old World species *Gastrophysa viridula* (De Geer) from *Rumex* (Essig, 1958; Kumar *et al.*, 1976), and such reports were probably based on *G. formosa*.

Additionally, *G. formosa* (or “*G. viridula*”) has been reported as a pest of grape [*Vitis*] (Vitaceae) (Chittenden, 1895a; Essig, 1958; Jolivet, 1951b; Riley & Howard, 1889c). However, this was likely based on misidentified beetles, perhaps on misidentified *Altica*.

***Gastrophysa polygoni* (Linnaeus).** This species, including Old World populations, feeds on Polygonaceae, having been reported from *Fagopyrum esculentum* Moench, *Polygonum aviculare* L., *P. convolvulus* L., *P. maritimum* L., *Rheum officinale* Baill., *Rumex acetosa* L., *R. arifolius* Linn. f., and *R. crispus* L. (Abdullah & Qureshi, 1969; Beutenmüller, 1890a; Blatchley, 1910; Campobasso *et al.*, 1999; Chagnon, 1938; Chagnon & Robert, 1962; Chevin, 1964; Downie & Arnett, 1996; Edwards, 1949; Fabricius, 1792, 1801; Hamilton, 1894b, 1895; Harris, 1841, 1863; Hatch, 1971; Hilterhaus, 1965; Johnson, 1927; Jolivet, 1951b; Jolivet & Hawkeswood, 1995; Lawson, 1991; Linnaeus, 1758; Lopatin, 1984; Lühmann, 1938; Marcovitch, 1916; Medvedev, 1996a; Mohr, 1966; Morris, 1914a, 1914b; Müller, 1764; Norris & Kogan, 2000; Paterson, 1931; Proctor, 1938, 1946; Riley & Enns, 1979; Riley & Howard, 1889d; Schrank, 1781; Smith, 1900; Sotherton, 1982a, 1982b; Steinhausen, 1996; Vig, 1992b, 1996, 1997; Vig & Rozner, 1996; Webster, 1890a; Whitehead, 1919; Wilcox, 1954, 1972, 1979). In experimental tests, *G. polygoni* has fed on several of the plants mentioned above and also on *Polygonum baldschuanicum* Regel, *P. persicaria* L., *P. sachalinense* F. Schmidt ex Maxim, *Rheum rhaponticum* L., *Rumex acetosella* L., and *R. obtusifolius* L. (Chevin, 1964; Hilterhaus, 1965; Sotherton, 1982b).

Dillon & Dillon (1961) and Wickham (1896a) reported *G. polygoni* from knotgrass [*Paspalum*] (Poaceae). This was probably an error, knotweed [*Polygonum*] being intended.

Beyond Polygonaceae, this beetle species has been reported from *Carduus nutans* L., *C. pycnocephalus* L., *Cynara scolymus* L., *Senecio aquaticus* Hill, *S. erraticus* Bert., *Silybum marianum* (L.) Gaertn. (Asteraceae); *Cardaria draba* (L.) Desv. (Brassicaceae); *Beta vulgaris* L. (Chenopodiaceae); *Calystegia sepium* (L.) R. Br., *Convolvulus arvensis* L. (Convolvulaceae); lucerne [*Medicago sativa* L.] (Fabaceae); *Phleum pratense* L., sweet corn [*Zea mays* L.] (Poaceae); willow [*Salix*] (Salicaceae); and *Ulmus campestris* L. [*U. minor* Mill.] (Ulmaceae) (Abdullah & Qureshi, 1969; Andrews, 1923; Campobasso *et al.*, 1999; Everly, 1938; Hilterhaus, 1965; Jolivet, 1951b; Lopatin, 1984; Mohyuddin, 1969a; Pemberton & Hoover, 1980; Proctor, 1938, 1946; Riley & Howard, 1889d; Webster, 1890a). However, as noted by Paterson (1931), associations with mangold-wurzel [*Beta vulgaris*] were likely in error. In fact, all associations with non-polygonaceous plants were probably either incidental or based on misidentification.

***Glenidion flexicaulis* (Schaeffer).** Replace the existing text with the following: “This species is apparently associated with Fabaceae, having been reported from *Acacia smallii* Isley and *A. flexicaulis* Benth. [*Ebenopsis ebano* (Berl.) Barneby & Grimes] (Fabaceae) (Riley *et al.*, 2002; Schaeffer, 1905).

***Glyphuroplata nigella* (Weise).** This species is apparently associated with Poaceae, having been reported from *Eriochloa gracilis* (E. P. N. Fourn.) A. Hitchc. and *Valota* (Hespenheide & Dang, 1999; Riley, 1985b). It has also been reported from *Mimosa* (Fabaceae) (Riley, 1985b), but this occurrence may have been incidental. Additionally, it has been swept from alfalfa [*Medicago sativa* L.] (Fabaceae) (Riley, 1985b), but sweeping records should not necessarily be interpreted as host associations.

***Glyphuroplata pluto* (Newman).** The host of this species may possibly be *Panicum capillare* L. (Poaceae) (Ford & Cavey, 1985; Frost, 1924; Maulik, 1937; Needham *et al.*, 1928; Riley, 1985b; Wilcox, 1979). Material has also been recorded from “B. Blue stem” [big bluestem, *Andropogon gerardii* Vitman] (Poaceae) (Riley, 1985b).

Beyond this, the synonym *Uroplata porcata* (Melsheimer) has been reported from low huckleberry [*Gaylussacia*] (Ericaceae) and oak [*Quercus*] (Fagaceae) (Blatchley, 1924a; Kirk, 1969), but these occurrences may have been incidental. Boiteau (1983a) included *Glyphuroplata porcata* in a list of insects collected from potato fields [*Solanum tuberosum* L.] (Solanaceae), but this should not be interpreted as a host association.

***Glyphuroplata uniformis* (Smith).** This species is associated with Poaceae, having been recorded from *Digitaria sanguinalis* (L.) Scop. and *Valota* (Noguera, 1988; Riley, 1985b; Thomas & Werner, 1981). It has also been reported from Bombacaceae (genus not specified), *Mimosa laxiflora* Benth. (Fabaceae), and *Celtis pallida* J. Torr. (Ulmaceae) (Noguera, 1988; Riley, 1985b).

***Glyptina abbreviata* Gentner.** This species feeds on wild geranium [*Geranium*] (Geraniaceae) (Gentner, 1924). In previously unpublished field work, we have associated Montana populations with *Geranium viscosissimum* F. E. L. Fischer & C. A. Meyer.

Everly (1938) reported three specimens of “*Glyptina abbreviata* Gentn.?” from sweet corn [*Zea mays* L.] (Poaceae). However, this occurrence was probably incidental.

***Glyptina atriventris* Horn.** This species has been reported from *Ericameria nauseosa* (Pall. ex Pursh) Nesom & Baird (Asteraceae); *Euphorbia esula* L., *Piscaria setigera* Piper (Euphorbiaceae); *Thermopsis* (Fabaceae); *Mentha* (Lamiaceae); and *Prunus virginiana* L. (Rosaceae) (Balsbaugh *et al.*, 1967; Douglass, 1929; Hatch, 1971; Horning & Barr, 1970; Kirk & Balsbaugh, 1975; McDaniel *et al.*, 1992; Pemberton & Rees, 1990). Additionally, Ward *et al.* (1977) listed “*Glyptina* sp. near *atriventris*” from *Prosopis glandulosa* J. Torr. (Fabaceae). Preferred hosts are likely confined to the Euphorbiaceae.

***Glyptina bicolor* Horn.** This species feeds on *Euphorbia corollata* L. (Euphorbiaceae) (Riley & Enns, 1979). It has also reported from *Quercus* (Fagaceae) (Clark, 2000; Downie & Arnett, 1996), but this occurrence may have been incidental.

***Glyptina brunnea* Horn.** This species has been reported feeding on *Chamaesyce maculata* (L.) Small and *Sebastiania fruticosa* (Bartram) Fernald (Euphorbiaceae) (Flowers *et al.*, 1994; Peck & Thomas, 1998; Riley & Enns, 1982). It has also been reported from *Flourensia cernua* DC. (Asteraceae), *Beta vulgaris* L. (Chenopodiaceae), cotton [*Gossypium*] (Malvaceae), and *Zea mays* L. (Poaceae) (Forbes, 1905; Forbes & Hart, 1900; Neiswander, 1931; Richerson & Boldt, 1995; Rouse & Medvedev, 1972; Stirrett, 1924, 1935). Beyond these reports, Goeden (1971a) reported “*Glyptina* sp. near *brunnea*” from *Solanum elaeagnifolium* Cav. (Solanaceae). Preferred hosts of *G. brunnea* are probably limited to Euphorbiaceae.

Reexamination of specimens treated as *Glyptina ferruginea* Blatchley by Riley & Enns (1979, 1982) reveals that these are actually *G. brunnea*. Thus, the reported association with *Euphorbia obtusata* Pursh (Euphorbiaceae) actually applies to *G. brunnea*. Conversely, material they reported as *G. brunnea* was also misidentified, and the recorded association with *Chamaesyce maculata* (L.) Small actually applies to some other species of *Glyptina*.

***Glyptina cerina* (LeConte).** This species is reported to be destructive to *Solanum tuberosum* L. (Sola-

naceae) (Carr, 1988; Crosby & Leonard, 1918; Essig, 1915b, 1958; Jaques, 1951). Even so, this association warrants confirmation. Beetles have also been reported from *Gutierrezia sarothrae* (Pursh) N. L. Britt. & Rusby (Asteraceae), *Lepidium alyssoides* A. Gray [*L. montanum* ssp. *alyssoides* (A. Gray) C. L. Hitchcock] (Brassicaceae), *Salsola kali* L. (Chenopodiaceae), and *Ceanothus* (Rhamnaceae) (Carr, 1988; Foster *et al.*, 1981; Goeden & Ricker, 1968; Romney, 1946), but these occurrences may have been incidental.

***Glyptina cyanipennis* (Crotch).** This species has been recorded from *Euphorbia cyathophora* Murray, *E. dentata* Michx., and *E. heterophylla* L. (Euphorbiaceae) (Pemberton & Rees, 1990; Riley & Enns, 1979, 1982; Schwarz, 1890; Wheeler, 1981). It has also been reported from *Parthenocissus quinquefolia* (L.) Planch. (Vitaceae) (Blatchley, 1910, 1924a; Clark, 2000), but this occurrence was probably incidental. Bickensstaff & Huggans (1962) included *G. cyanipennis* in a list of insects collected from soybean fields [*Glycine max* (L.) Merr.] (Fabaceae), but this should not be interpreted as a host association.

***Glyptina ferruginea* Blatchley.** Riley & Enns (1982) reported a large series found feeding on *Euphorbia obtusata* Pursh (Euphorbiaceae). However, our reexamination of voucher specimens reveals that the species involved in this record is actually *Glyptina brunnea* Horn. Beyond this, *G. ferruginea* has also been reported in association with *Carya illinoensis* (Wang.) K. Koch (Juglandaceae) (Balsbaugh & Hays, 1972; Wilcox, 1979).

***Glyptina leptosoma* Blatchley.** This species has been recorded from *Chamaesyce maculata* (L.) Small (Euphorbiaceae) (Clark, 2000). It has also been swept from goldenrod [*Solidago*] (Asteraceae) (Blatchley, 1924b; Wilcox, 1954), but sweeping records should not necessarily be interpreted as host associations. Downie & Arnett (1996) and Wilcox (1979) also indicated that *G. leptosoma* occurs on *Solidago*, but this was probably based on previously published sweeping records.

***Glyptina nivalis* Horn.** In previously unpublished investigations in Texas, we have collected adults of this species from *Euphorbia bifurcata* Engelm., *E. cyathophora* Murray, and *E. dentata* Michx. (Euphorbiaceae).

***Glyptina schaefferi* (Blatchley).** Adults of this species feed on *Sebastiania fruticosa* (Bartram) Fernald (Euphorbiaceae) (Flowers *et al.*, 1994; Peck & Thomas, 1998).

***Glyptina socia* (Horn).** In previously unpublished investigations in western Texas, we have collected adults of this species from *Phyllanthus abnormis* Baill. (Euphorbiaceae).

***Glyptina spuria* LeConte.** This species is apparently associated with Euphorbiaceae, having been reported from *Chamaesyce blodgettii* (Engelm. ex Hitch.) Small, *C. maculata* (L.) Small, and *Euphorbia preslii* Guss. (Pemberton & Rees, 1990; Wheeler, 1981). It has also been reported, sometimes in abundance, from *Monarda didyma* L. and *M. punctata* L. (Lamiaceae) (Hamilton, 1895; Smith, 1900, 1910a; Wilcox, 1979).

Additionally, *G. spuria* has been recorded from *Gutierrezia microcephala* (DC.) A. Gray, cocklebur [*Xanthium*]; *Cercis canadensis* L. (Fabaceae); *Quercus palustris* Muenchh., *Q. rubra* L. (Fagaceae); cotton [*Gossypium*] (Malvaceae); apple [*Malus sylvestris* P. Mill.] (Rosaceae); and *Vitis rotundifolia* Michx. (Vitaceae) (Bray & Triplehorn, 1953; Cleveland & Hamilton, 1959; Douglass, 1929; Foster *et al.*, 1981; Kirk, 1970; Lee, 1949; McGiffin & Neunzig, 1985; Rouse & Medvedev, 1972). However, these occurrences may have been incidental.

Beyond these reports, Ward *et al.* (1977) listed “*Glyptina* sp. near *spuria*” from mesquite [*Prosopis*] (Fabaceae). Similarly, Schwitzgebel & Wilbur (1942) recorded one specimen of “*Glyptina* sp. prob. *spuria*” from *Vernonia interior* Small [*V. baldwinii* ssp. *interior* (Small) W. Z. Faust] (Asteraceae). The associations with these plants were likely incidental.

***Glyptina texana* (Crotch).** This species has been associated with *Euphorbia marginata* Pursh (Euphorbiaceae) (Douglass, 1929; Popenoe, 1877). Additionally, in previously unpublished investigations in southeastern Texas, we have collected adults from *E. bicolor* Engelm. & Gray.

This beetle species has also been reported from aster [*Aster* or a similar genus], *Grindelia*, sunflower [*Helianthus*], *Vernonia interior* Small [*V. baldwinii* ssp. *interior* (Small) W. Z. Faust], cocklebur [*Xanthium*] (Asteraceae); red clover [*Trifolium pratense* L.] (Fabaceae); and salvia [*Salvia*] (Lamiaceae) (Douglass, 1929; Riley & Enns, 1982; Schwitzgebel & Wilbur, 1942). However, at least some of these records may have been based on incidental occurrences.

***Glyptoscelis albicans* Baly.** Riley & Enns (1979) reported a series collected from the stems of oak [*Quercus*] (Fagaceae). Moldenke (1971) recorded Mexican material in association with *Crotalaria mucronata* Desv. [*C. pallida* Aiton] (Fabaceae). Riley *et al.* (2002) indicated that *G. albicans* occurs on several woody plants, without a particular preference.

In previously unpublished field work in east-central Texas, we have collected a large number of adults from *Quercus nigra* L. (Fagaceae). We have also found adults sporadically on *Aesculus pavia* L. (Hippocastanaceae) and *Carya illinoensis* (Wang.) K. Koch (Juglandaceae).

***Glyptoscelis albida* LeConte.** This species occurs on conifers, including *Libocedrus decurrens* J. Torr.

(Cupressaceae), and it also been reported from apple [*Malus sylvestris* P. Mill.], *Prunus*, pear [*Pyrus*] (Rosaceae); *Populus* (Salicaceae); and grape [*Vitis*] (Vitaceae) (Beller & Hatch, 1932; Blake, 1967; Carr, 1988; Essig, 1958; Furniss & Carolin, 1977; Knowlton, 1954b; Krauss, 1937). Unfortunately, some of these associations predate modern taxonomic revision and may have been based on *Glyptoscelis longior* LeConte or a similar species. Townsend (1902) reported a specimen of *G. albida* from cotton [*Gossypium*] (Malvaceae), but his observation was made in the Lower Rio Grande Valley of Texas and adjacent Mexico, far beyond the normally recognized range of this beetle species, and it was certainly based on misidentification. Knowlton (1957b) recorded “*Glyptoscelis* sp. probably *albida*” from cottonwood [*Populus*] (Salicaceae).

In our previously unpublished observations in California, we have found *G. albida* consistently in association with *Libocedrus decurrens*. Beyond this, we have seen material labeled from California in association with Arizona cypress [*Cupressus arizonica* E. L. Greene] (Cupressaceae).

***Glyptoscelis alternata* Crotch.** Reported associations involve *Artemisia tridentata* Nutt., sunflower [*Helianthus*] (Asteraceae); *Glycyrrhiza lepidota* Nutt. ex Pursh (Fabaceae); apple [*Malus sylvestris* P. Mill.], peach [*Prunus persica* (L.) Batsch], and pear [*Pyrus*] (Rosaceae) (Beller & Hatch, 1932; Blake, 1967; Carr, 1988; Melander & Heald, 1916; Van Dyke, 1938b; Yothers, 1916). However, except for records from *Glycyrrhiza*, these reports predate Blake’s (1967) taxonomic revision and may have been based on misidentification. In recent field work, we have collected many adults from *Chenopodium* (Chenopodiaceae) and *Salix exigua* Nutt. (Salicaceae).

***Glyptoscelis aridis* Van Dyke.** This species has been found on *Pinus monophylla* J. Torr. & Frem. (Pinaceae) (Blake, 1967; Carr, 1988; Furniss & Carolin, 1977; Van Dyke, 1938b).

***Glyptoscelis artemisiae* Blake.** This species has been found on *Artemisia tridentata* Nutt. (Asteraceae) (Blake, 1967; Hatch, 1971). Additionally, Hatch (1971) reported that it frequently occurs on fruit trees [likely Rosaceae]. In previously unpublished investigations, we have seen specimens labeled from both British Columbia and Washington in association with *Balsamorhiza sagittata* (Pursh) Nutt. (Asteraceae).

***Glyptoscelis barbata* (Say).** This species has been recorded from *Carya* (Juglandaceae), *Pinus* (Pinaceae), and *Vitis* (Vitaceae) (Anonymous, 1985; Blake, 1967; Blatchley, 1910; Clark, 2000; Downie, 1957; Downie & Arnett, 1996; Hamilton, 1895; Krauss, 1937; MacAloney, 1950; Riley & Enns, 1979; Smith, 1900, 1910a; Ulke, 1903; Wilcox, 1954, 1979).

***Glyptoscelis cryptica* (Say).** This species has been reported from mesquite [*Prosopis*] (Fabaceae), oak [*Quercus*] (Fagaceae), apple [*Malus sylvestris* P. Mill.] (Rosaceae), and cottonwood [*Populus*] (Salicaceae) (Douglass, 1929; Krauss, 1937; Lugger, 1899; Ward *et al.*, 1977).

***Glyptoscelis illustris* Crotch.** This species has been collected from *Juniperus occidentalis* Hook. (Cupressaceae); *Pinus monophylla* J. Torr. & Frem. and *P. ponderosa* Dougl. ex Lawson & C. Lawson (Pinaceae) (Blaisdell, 1921; Blake, 1967; Carr, 1988; Doane *et al.*, 1936; Fall, 1901; Furniss & Carolin, 1977; Krauss, 1937; Van Dyke, 1938b).

***Glyptoscelis juniperi* Blake.** The subspecies *G. j. juniperi* is associated with *Juniperus occidentalis* Hook. (Cupressaceae) (Blake, 1967; Carr, 1988; Furniss & Carolin, 1977). *Glyptoscelis j. zanthocoma* Blake is associated with *Libocedrus decurrens* J. Torr. (Cupressaceae) (Blake, 1967; Carr, 1988; Furniss & Carolin, 1977). Additionally, Blake (1967) reported a specimen, possibly belonging to this beetle species, collected from *Pinus murrayana* Grev. (Pinaceae). Carr (1988) also listed *G. juniperi* from *P. murrayana*, but this was probably based on Blake’s record. Valenti *et al.* (1997) recorded “*Glyptoscelis juniperi* Blake or nr.” from *Arctostaphylos patula* E. L. Greene (Ericaceae), but this occurrence was likely adventitious.

***Glyptoscelis longior* LeConte.** This species has been reported from sagebrush [*Artemisia*], sunflower [*Helianthus*] (Asteraceae); juniper [*Juniperus*], *Libocedrus decurrens* J. Torr. (Cupressaceae); apple [*Malus sylvestris* P. Mill.], peach [*Prunus persica* (L.) Batsch], cherry [*Prunus*], and *Pyrus communis* L. (Rosaceae) (Blake, 1967; Carr, 1988; Essig, 1915b; Krauss, 1937). In previously unpublished investigations, we have seen *G. longior* labeled from Oregon in association with *Ceanothus velutinus* Dougl. ex Hook. (Rhamnaceae).

***Glyptoscelis parvula* Blaisdell.** This species has been collected from *Rosa* (Rosaceae) and *Salix* (Salicaceae) (Blaisdell, 1921; Blake, 1967; Carr, 1988; Krauss, 1937). Additionally, in previously unpublished investigations, we have seen *G. parvula* labeled from California in association with *Acer macrophyllum* Pursh (Aceraceae), *Rumex crispus* L. (Polygonaceae), and *Salix* (Salicaceae). It is not clear whether or not these are food plants.

***Glyptoscelis paula* Blake.** This species has been associated with *Artemisia tridentata* Nutt. (Asteraceae) (Blake, 1967; Hatch, 1971).

***Glyptoscelis prosopis* Schaeffer.** This species has been recorded from *Acacia farnesiana* (L.) Willd. [probably *A. smallii* Isley, rather than true *A. farnesiana*] and *Prosopis juliflora* (Sw.) DC. [*P. glandulosa* J. Torr.] (Fabaceae) (Blake, 1967; Krauss, 1937; Moldenke, 1971; Schaeffer, 1905; Ward *et al.*, 1977).

***Glyptoscelis pubescens* (Fabricius).** This species is associated with Pinaceae, having been reported

from fir [*Abies*], *Picea*, *Pinus banksiana* Lamb., *P. echinata* P. Mill., red pine [*P. resinosa* Aiton], *P. rigida* P. Mill., *P. strobus* L., Scotch pine [*P. sylvestris* L.], *P. taeda* L., *P. virginiana* P. Mill., and *Tsuga canadensis* (L.) Carr. (Anonymous, 1985; Baker, 1972; Balsbaugh & Hays, 1972; Beutenmüller, 1890a; Blake, 1967; Chagnon, 1937; Chagnon & Robert, 1962; Clark, 2000; Dearborn & Donahue, 1993; Dillon & Dillon, 1961; Downie & Arnett, 1996; Felt, 1907; Flowers, 1990; Hamilton, 1895; Harrington, 1883; Hopkins, 1893; Kirk, 1970; Klein & Coppel, 1966, 1969; Krauss, 1937; Packard, 1890; Riley *et al.*, 2002; Say, 1826; Smith, 1900, 1910a; Ulke, 1903; Wilcox, 1954, 1979; Williams, 1977).

Beyond Pinaceae, this beetle species has been recorded from hickory [*Carya*] (Juglandaceae), *Hemerocallis* (Liliaceae), *Triticum aestivum* L. (Poaceae), and grape [*Vitis*] (Vitaceae) (Dillon & Dillon, 1961; Flowers, 1990; McGiffin & Neunzig, 1985; Wilcox, 1954). However, Klein & Coppel (1966, 1969) rightly discounted reported associations with hickory [*Carya*] and grape [*Vitis*]. In fact, all records from plants other than Pinaceae were likely either incidental or based on misidentified beetles.

***Glyptoscelis septentrionalis* Blake.** This species has been associated with *Abies*, *Pinus contorta* Dougl. ex Loudon, and *P. ponderosa* Dougl. ex Lawson & C. Lawson (Pinaceae), and it has also been reported feeding on *Prunus* (Rosaceae) (Blake, 1967; Carr, 1988; Furniss & Carolin, 1977).

***Glyptoscelis sequoiae* Blaisdell.** This species has been found on *Sequoia sempervirens* (D. Don.) Endl. (Taxodiaceae) (Blaisdell, 1921; Blake, 1967; Carr, 1988; Doane *et al.*, 1936; Furniss & Carolin, 1977; Hatch, 1971; Krauss, 1937). It has also been recorded from *Libocedrus* (Cupressaceae) and *Pyrus* (Rosaceae) (Carr, 1988; Krauss, 1937).

Additionally, *G. sequoiae* has been reported from mountain juniper [possibly *Juniperus scopulorum* Sarg.] (Cupressaceae) (Carr, 1988; Krauss, 1937; Van Dyke, 1938b). However, such associations with *Juniperus* were likely based on populations of *Glyptoscelis juniperi* Blake (see Blake, 1967).

***Glyptoscelis squamulata* Crotch.** This species has been reported from *Artemisia douglasiana* Besser, *A. heterophylla* Besser (Asteraceae); alfalfa [*Medicago sativa* L.], bean [likely *Phaseolus vulgaris* L.], mesquite [*Prosopis*] (Fabaceae); *Malva*, *Sphaeralcea rosacea* Munz. & I. M. Johnst. (Malvaceae); *Hordeum* (Poaceae); peach [*Prunus persica* (L.) Batsch], *Rosa* (Rosaceae); orange [*Citrus*] (Rutaceae); *Salix amygdaloides* Anderss. (Salicaceae); *Datura* (Solanaceae); tamarisk [*Tamarix*] (Tamaricaceae); *Vitis arizonica* Englem. and *V. vinifera* L. (Vitaceae) (Anonymous, 1964c; Blaisdell, 1921; Blake, 1967; Brisley, 1925; Carr, 1988; Doane *et al.*, 1936; Ebeling, 1939, 1959; Essig, 1958; Essig & Hoskins, 1944; Krauss, 1937; McGiffin & Neunzig, 1985; Moore, 1937; Quayle, 1938; Riley *et al.*, 2002; Stern & Johnson, 1984a, 1984b; Tanner, 1928; Westcott, 1946). Under laboratory conditions, it has also fed on *Parthenocissus tricuspidata* (Sieb. & Zucc.) Planch. (Vitaceae) (Stern & Johnson, 1984b).

***Glyptoscelis vandykei* Krauss.** This species has been associated with *Juniperus* (Cupressaceae) (Blake, 1967; Furniss & Carolin, 1977).

***Glyptoscelis yosemitae* Krauss.** This species has been recorded from *Libocedrus decurrens* J. Torr. (Cupressaceae) and *Pinus ponderosa* Dougl. ex Lawson & C. Lawson (Pinaceae) (Krauss, 1937).

***Gonioctena americana* (Schaeffer).** This species feeds on *Populus balsamifera* L. and *P. tremuloides* Michx. (Salicaceae) (Brown, 1942a; Clark, 2000; Dearborn & Donahue, 1993; Downie & Arnett, 1996; Fall, 1926; Furniss & Carolin, 1977; Hatch, 1971; Ives & Wong, 1988; Jaques, 1951; Lawson, 1976b, 1991; LeSage, 1975; Mason & Lawson, 1982; Smereka, 1965; Takizawa, 1989; Wilcox, 1972, 1979).

This beetle species has also been reported from willow [*Salix*] (Salicaceae) (Jaques, 1951; Wilcox, 1954). However, according to Brown (1942a), such records are in error. Additionally, *G. americana* has been recorded from alder [*Alnus*] (Betulaceae); fir [*Abies*] and spruce [*Picea*] (Pinaceae) (Dearborn & Donahue, 1993). However, these plants are not normal hosts.

The Old World species *Gonioctena pallida* (Linnaeus) has been reported from North America in association with *P. tremuloides* and poplar [*Populus*] (Anonymous, 1968o; Chittenden, 1904a; Cook, 1891; Coquillett, 1883; Felt, 1907, 1930; Herrick, 1935; Notman, 1921; Packard, 1890; Schaeffer, 1924; Wickham, 1896a). Such records were not based on true *G. pallida*, but rather on *G. americana* or a similar Nearctic species. Additionally, Dimmock (1885) included “*Gonioctena pallida*” in a list of North American insects associated with *Betula*, citing previously published reports from *B. alba* L. [*B. pubescens* Ehrh.]; however, the cited reports were made by Old World authors, and this association therefore does not apply to *G. americana*.

***Gonioctena nivosa* (Mannerheim).** This species feeds on *Salix* (Salicaceae) (Brown, 1942a, 1952; Furniss & Carolin, 1977; Raizenne, 1975; Schaeffer, 1924; Wilcox, 1972).

***Gonioctena notmani* (Schaeffer).** Hosts are species of *Salix* (Salicaceae), including *S. bebbiana* Sarg. (Brown, 1942a; Downie & Arnett, 1996; Furniss & Carolin, 1977; Peterson, 1960; Raizenne, 1975; Takizawa, 1989; Wilcox, 1972, 1979).

The Old World species *Gonioctena pallida* (Linnaeus) has been reported in North America in association with willow [*Salix*] (Andrews, 1923; Anonymous, 1968o; Felt, 1907, 1930; Wickham, 1896a). Such reports

were surely based on populations of *G. notmani* or of a similar North American species. Also, Notman's (1921) report of *G. affinis* (Gyllenhal), a synonym of the European subspecies *G. nivosa nivosa* (Mannerheim), from New York in association with willow [*Salix*] was likely based on *G. notmani*.

Fall (1926) reported *G. notmani* from poplar [*Populus*] (Salicaceae). However, this association preceded Brown's (1942a) taxonomic revision, and the identity of the beetles is therefore doubtful.

***Gonioctena occidentalis* (Brown).** This species has been collected from *Salix* (Salicaceae) (Brown, 1942a; Hatch, 1971; Raizenne, 1975; Wilcox, 1972).

***Graphops comosa* Blake.** This species has been recorded in association with *Gaura parviflora* Douglas ex Lehm. [*G. mollis* James] (Onagraceae) (Blake, 1955b). In previously unpublished investigations in western Texas, we have collected adults from *Calylophus hartwegii* (Benth.) Raven and *Gaura villosa* Torr. (Onagraceae).

***Graphops curtippennis* (Melsheimer).** This species has been reported from *Hypericum hypericoides* (L.) Crantz, *H. perforatum* L., *H. prolificum* L. (Clusiaceae); *Cyrilla racemiflora* L. (Cyrillaceae); broomsedge [*Andropogon virginicus* L.], oats [*Avena*], wheat [*Triticum*] (Poaceae); and pepper [*Capsicum*] (Solanaceae) (Balsbaugh & Hays, 1972; Blake, 1955b; Blatchley, 1924a; Clark, 2000; Douglass, 1929; Downie & Arnett, 1996; Kirk, 1969; Rouse & Medvedev, 1972; Whelan, 1936).

In previously unpublished investigations, we have identified an adult specimen of the subspecies *Graphops c. schwarzi* Blake labeled from Florida in association with *Hypericum densiflorum* Pursh (Clusiaceae). Indeed, species of *Hypericum* are normal hosts. At least some of the other occurrences mentioned above were certainly incidental.

***Graphops floridana* Blake.** This species has been recorded from *Cyrilla racemiflora* L. (Cyrillaceae) and *Prunus* (Rosaceae) (Balsbaugh & Hays, 1972; Blake, 1955b; Clark, 2000). In previously unpublished investigations, we have found numerous adults of *Graphops*, and have identified them as "*Graphops* sp., nr. *floridana*," in central Louisiana where they were feeding at night on leaf blades of *Liatris* (Asteraceae).

***Graphops marcassita* (Crotch).** Both subspecies, *G. m. marcassita* and *G. m. pugitana* Blake, are associated with *Fragaria* (Rosaceae), the larvae feeding on the roots (Blake, 1955b; Downie & Arnett, 1996; Riley *et al.*, 2002). Additionally, in previously unpublished investigations, we have identified a series of adult *G. marcassita* labeled from Manitoba in association with *Geum triflorum* Pursh (Rosaceae).

Dickerson & Weiss (1920) reported this beetle species from *Oenothera* (Onagraceae), but this may have been based on misidentified insects. Beyond this, Kirk & Balsbaugh (1975) reported *G. marcassita* from "under rock on sod." However, sod [Poaceae] is probably not a food plant.

***Graphops nebulosa* (LeConte).** This species is apparently associated with (Onagraceae), having been recorded from *Gaura* and *Oenothera* (Blake, 1955b; Douglass, 1929; Popenoe, 1877). In previously unpublished investigations, we have collected adults from *Calylophus berlandieri* Spach in Kansas, from *C. serrulatus* (Nutt.) Raven in Texas, and from *Oenothera biennis* L. in western Nebraska.

Forbes (1884a) reported that larvae of *Graphops pubescens* (Melsheimer) feed on the roots of *Fragaria vesca* L. (Rosaceae). However, he later (Forbes, 1884b) stated that this was based on misidentification of *G. nebulosa*. Other reports have similarly recorded *G. nebulosa* doing damage to strawberry [*Fragaria*] (Rosaceae) (Forbes, 1909; Gossard, 1911; Smith, 1900, 1910a). Even so, such associations predate important taxonomic revision and may have been based on a species other than true *G. nebulosa*.

***Graphops obscura* LeConte.** Kumar *et al.* (1976) reported "*Graphops* probably *obscura*" from blossoms of *Cirsium* (Asteraceae).

***Graphops pubescens* (Melsheimer).** This species has been associated with *Oenothera biennis* L. and *O. parviflora* L. (Onagraceae) (Balsbaugh & Hays, 1972; Blake, 1955b; Blatchley, 1910; Carr, 1988; Chagnon, 1937; Chagnon & Robert, 1962; Clark, 2000; Dickerson & Weiss, 1920; Dillon & Dillon, 1961; Douglass, 1929; Downie & Arnett, 1996; Forbes, 1884b; Hamilton, 1895; Hendrickson, 1930b; Jaques, 1951; Riley & Enns, 1979; Smith, 1900, 1910a; Weiss, 1922b; Wilcox, 1954, 1979). Additionally, in previously unpublished investigations, we have seen a series of *G. pubescens* labeled from Utah in association with *Oenothera pallida* Lindl.

This beetle species is also reported to infest the roots of *Fragaria vesca* L. (Rosaceae) (Beutenmüller, 1890a; Dickerson & Weiss, 1920; Forbes, 1884a; Lugger, 1899; Metcalf & Metcalf, 1993; Sanderson & Peairs, 1931; Schultz, 1970; Slingerland & Crosby, 1915; Smith, 1943). However, Forbes (1884b) noted that this was at least in part based on misidentification of *Graphops nebulosa* (LeConte). According to Blake (1955b), recorded associations with strawberry [*Fragaria*] were based on misidentified specimens of *G. marcassita* (Crotch). Additionally, *G. pubescens* has been reported from soybean [*Glycine max* (L.) Merr.] (Fabaceae) and oats [*Avena*] (Poaceae) (Rouse & Medvedev, 1972), but these occurrences were probably adventitious.

***Graphops simplex* LeConte.** Blake (1955b) reported that *G. simplex* had been found on *Rudbeckia* (As-

teraceae), *Oenothera* (Onagraceae), and *Physalis* (Solanaceae). Of these plants, *Oenothera* seems the most likely host. Additionally, on page 268 of the same publication, she reported that *G. bicolor* (Lefèvre), a name that she placed in *incertae sedis* on page 299, had been associated with *Oenothera*. This report was likely based on specimens of *G. simplex* or *G. varians* LeConte. In previously unpublished investigations, we have collected adults of *G. simplex* from *Oenothera speciosa* Nutt. in east-central Texas.

***Graphops tenuis* Blake.** This species has been collected from *Salsola pestifer* A. Nelson [*S. kali* L.] (Chenopodiaceae), morning glory [likely *Calystegia*, *Convolvulus*, or *Ipomoea*] (Convolvulaceae), and *Gaura parviflora* Douglas ex Lehm. [*G. mollis* James] (Onagraceae) (Blake, 1955b). Of these plants, *Gaura* seems the most likely host.

***Graphops varians* LeConte.** This species is apparently associated with Onagraceae. Blake (1955b) reported that *G. varians* (or a very similar species) had been found on *Oenothera pallida* Lindl. Additionally, on page 268 of the same publication, she reported that *G. bicolor* (Lefèvre), a name that she placed in *incertae sedis* on page 299, had been associated with *Oenothera*. This report was likely based on specimens of *G. simplex* LeConte or *G. varians*. Other workers have also indicated associations of *G. simplex* with *Oenothera* (Clark, 2000; Downie & Arnett, 1996). In previously unpublished investigations in Kansas and western Texas, we have collected this beetle species from *Gaura villosa* Torr.

Beyond Onagraceae, Riley & Enns (1979) reported *G. varians* collected by sweeping vegetation that included *Fragaria* (Rosaceae), but sweeping records should not necessarily be interpreted as host associations. Additionally, *G. varians* has been recorded from *Cakile edentula* (Bigel.) Hook. (Brassicaceae), red beet [*Beta vulgaris* L.] (Chenopodiaceae), and *Quercus* (Fagaceae) (Blatchley, 1920b, 1924a; Clark, 2000; Trippel, 1934). However, these associations were based on observations that predate Blake's (1955b) taxonomic revision, and the identity of the beetles is therefore somewhat uncertain.

***Gratiana pallidula* (Boheman).** This species is associated with Solanaceae, having been reported from *Lycopersicon esculentum* Mill., *Solanum carolinense* L., *S. elaeagnifolium* Cav., *S. melongena* L., *S. rostratum* Dunal, *S. tuberosum* L., and *S. xanti* A. Gray (Anonymous, 1964f; Balsbaugh & Hays, 1972; Barber, 1916; Blatchley, 1910; Borowiec, 1999; Burke, 1963; Buzzi, 1994; Carr, 1988; Clark, 2000; Coquillett, 1892; Crosby & Leonard, 1918; Douglass, 1929; Downie & Arnett, 1996; Dudley *et al.*, 1952; Essig, 1915b, 1958; Fall, 1901; Goeden, 1971a; Harding, 1963b; Hill, 1999; Jones, 1916; Löding, 1945; Moldenke, 1971; Olckers & Zimmermann, 1991; Pallister, 1953; Papp, 1984; Radcliffe *et al.*, 1990; Richardson, 1955; Riley, 1882, 1883, 1986a; Riley & Enns, 1979; Riley *et al.*, 2002; Rolston *et al.*, 1965; Sanderson & Peairs, 1931; Shands & Landis, 1964; Siebert, 1975; Somes, 1916; Swan & Papp, 1972; Townsend, 1902; Wapshere, 1988; White, 1975; Wilcox, 1954, 1979). Under experimental conditions, *G. pallidula* has also fed on *Solanum linnaeanum* Hepper & Jaeger (Hill, 1999; Olckers & Zimmermann, 1991). In previously unpublished investigations, we have identified adults that were collected by Thomas A. Robbins from *Solanum dimidiatum* Raf. in central Texas.

Beyond Solanaceae, *G. pallidula* has been reported from sweet potato [*Ipomoea batatas* (L.) Lam.] (Convolvulaceae); soybean [*Glycine max* (L.) Merr.], alfalfa [*Medicago sativa* L.] (Fabaceae); cotton [*Gossypium*] (Malvaceae); and broomsedge [*Andropogon virginicus* L.] (Poaceae) (Kirk, 1969; Rouse & Medvedev, 1972). However, these occurrences were surely incidental.

The South American species *Gratiana lutescens* (Boheman), of which *G. pallidula* is sometimes considered a subspecies, is also associated with Solanaceae, having been reported from *Solanum elaeagnifolium*, *S. melongena*, and *S. sodomium* L. (Borowiec, 1999; Buzzi, 1988, 1994; Hill, 1999; Jolivet, 2001; Olckers & Zimmermann, 1991; Siebert, 1975; Wapshere, 1988; White, 1975). Under experimental conditions, *G. lutescens* has fed on some of the plants mentioned above, as well as on other Solanaceae: green pepper [*Capsicum annuum* L.], *Datura innoxia* P. Mill., *Lycopersicon*, *Solanum acanthoideum* E. Mey., *S. aculeastrum* Dun., *S. aculeatissimum* Jacq., *S. burchellii* Dun., *S. coccineum* Jacq., *S. duplo-sinuatatum* Klotzsch, *S. giftbergense* Dun., *S. hispidum* Pers., *S. incanum* L., *S. linnaeanum*, *S. mauritianum* Scop., *S. nigrum* L., *S. panduriforme* E. Meyer ex Dunal, *S. rigescens* Jacq., *S. tomentosum* L., and *S. tuberosum* (Hill, 1999; Jolivet & Hawkeswood, 1995; Olckers & Zimmermann, 1991; Siebert, 1975).

***Griburius equestris* (Olivier).** This species has been recorded from *Quercus laevis* Walt. and *Q. virginiana* P. Mill. (Fagaceae) (Riley *et al.*, 2001). John R. Watts (pers. comm.) has reared *G. equestris* from case-bearing larvae collected from lichens on oak [*Quercus*] in Florida.

Beyond this, Ulke (1903) recorded this beetle species from the District of Columbia in association with wild rose [*Rosa*] (Rosaceae). However, this report was almost certainly based on misidentified insects.

***Griburius larvatus* Newman.** Beutenmüller (1890a) stated that this species occurs on a small leaved huckleberry [*Gaylussacia*] (Ericaceae). Townsend (1902) reported specimens from *Leucaena pulverulenta* (Schlecht.) Benth. (Fabaceae) and cotton [*Gossypium*] (Malvaceae). In previously unpublished investigations, we have seen a series of *G. larvatus* labeled from Florida in association with *Conocarpus erectus* L. (Combretaceae).

Domínguez & Carrillo (1976) reported *G. larvatus* in association with pangola [*Digitaria eriantha* Steud.] (Poaceae). However, their report was from Mexico, beyond the probable range of true *G. larvatus*, and it was probably based on misidentification.

***Griburius leontii* Crotch.** Ward *et al.* (1977) listed this species from mesquite [*Prosopis*] (Fabaceae).

***Griburius montezuma* (Suffrian).** This species has been reported from *Aralia spinosa* L. (Araliaceae), *Prosopis* (Fabaceae), and oak [*Quercus*] (Fagaceae) (Riley *et al.*, 2001; Ward *et al.*, 1977). Beyond this, beetles have been reared from larvae found in a nest of *Neotoma*, a rodent (Riley *et al.*, 2001). Similarly, some workers have suspected that these insects feed on feces and debris in caves inhabited by buzzards (Beamer, 1926; Douglass, 1929).

***Griburius scutellaris* (Fabricius).** This species has been recorded from *Desmodium* (Fabaceae), *Quercus* (Fagaceae), and *Ceanothus* (Rhamnaceae) (Balsbaugh & Hays, 1972; Banks, 1912; Blatchley, 1910; Löding, 1945; Riley & Enns, 1979; Wilcox, 1979). In previously unpublished field work in central Texas, we have collected adults from *Quercus stellata* Wangerh.

***Hemiglyptus basalis* (Crotch).** Normal hosts are apparently *Eriodictyon californicum* (Hook. & Arn.) J. Torr. and *Hydrophyllum* (Hydrophyllaceae) (Carr, 1988; Essig, 1958; Hatch, 1971; N. D. Johnson *et al.*, 1984, 1985; Riley *et al.*, 2002). However, this beetle species has also been reported from *Brassica oleracea* L., *B. rapa* L., mustard [*Brassica* or a similar genus], *Raphanus sativus* L. (Brassicaceae); sugar beet [*Beta vulgaris* L.] (Chenopodiaceae); and tomato [*Lycopersicon esculentum* Mill.] (Solanaceae) (Anonymous, 1962e, 1964f; Carr, 1988; Crosby & Leonard, 1918; Essig, 1915b, 1958; Johnson *et al.*, 1985; Jolivet, 1991a; Jolivet & Hawkeswood, 1995; Stirrett, 1924). In previously unpublished investigations, we have seen specimens labeled from California in association with *Salvia* (Lamiaceae) and *Adenostoma* (Rosaceae).

***Hemiphrynus intermedius* (Jacoby).** In previously unpublished observations, we have seen material labeled from Arizona in association with *Quercus* (Fagaceae).

***Hemisphaerota cyanea* (Say).** This species is associated with Arecaceae, having been recorded from *Acoelorrhaphe wrightii* (Briseb. & H. Wendl.) H. Wendl. *ex* Becc., *Arecastrum romanoffianum* (Cham.) Becc., *Chamaerops humilis* L., *C. serrulata* Michx., *Coccothrinax*, *Cocos nucifera* L., *Sabal etonia* Swingle *ex* Nash, *S. minor* (Jacq.) Pers., *S. palmetto* (Walt.) Lodd. *ex* Schult. & Schult. f., *Serenoa repens* (Bartr.) Small, and *Washingtonia robusta* J. C. Wendl. (Balsbaugh & Hays, 1972; Barber, 1916; Beshear, 1969; Beutenmüller, 1890a; Blatchley, 1914, 1924a; Borowiec, 1999; Burke *et al.*, 1974; Dozier, 1920; Edwards, 1949; Eisner, 1972; Eisner & Aneshansley, 2000; Eisner & Eisner, 2000; Jackman, 1976; Jolivet, 1988b; Jolivet & Verma, 2002; Kirk, 1970; Löding, 1945; Olmstead, 1994; Peck & Thomas, 1998; Riley *et al.*, 2002; Schwarz, 1878; Woodruff, 1965a). In previously unpublished investigations, we have collected larvae and adults from *Sabal mexicana* Mart. in southern Texas, where this beetle species was likely introduced on ornamental palms from the southeastern United States. *Sabal mexicana* is the native palm of the Lower Rio Grande Valley, Texas.

***Hilarocassis exclamtionis* (Linnaeus).** In Latin America, this species has been recorded from species of *Jacquemontia* (Convolvulaceae), including *J. cumanensis* (Kunth) Kuntze (Borowiec, 1999; Maes & Staines, 1991; Noguera, 1988; Virkki & Santiago-Blay, 1998; Takizawa, 2003; Virkki, Santiago-Blay, & Riley, 1992). Beyond this, Windsor *et al.* (1992) recorded "*Hilarocassis* sp. (? *exclamtionis* L.)" from *Ipomoea* (Convolvulaceae) in Panama.

Beyond Convolvulaceae, *H. exclamtionis* has also been reported from *Adelia ricinella* L., *Ricinus communis* L. (Euphorbiaceae); *Lecythis elliptica* Kunth [*L. minor* Jacq.] (Lecythidaceae); and *Gossypium barbadense* L. (Malvaceae) (Martorell, 1976; Wolcott, 1936, 1951). However, these are probably not food plants.

***Hippuriphila canadensis* Brown.** This species has been associated with *Equisetum* (Equisetaceae) (Brown, 1942b; Clark, 2000; Downie & Arnett, 1996; Wilcox, 1954, 1979). Beyond this, *Hippuriphila modeeri* (Linnaeus) has been reported from eastern North America in association with *Equisetum*, as well as with "arrow alum" [presumably arrow arum, *Peltandra virginica* Raf.] (Araceae) (Beller & Hatch, 1932; Blatchley, 1910). However, *H. modeeri* is an Old World species that does not occur in the Western Hemisphere, and these plant associations were likely based on misidentified *H. canadensis*. In any case, the association with *Peltandra* was probably incidental. In eastern North America, *H. modeeri* has also been reported mining the leaves of *Rumex crispus* L. and *R. obtusifolius* L. (Polygonaceae) (Beller & Hatch, 1932; Frost, 1924, 1942; Heikertinger, 1950; Schaeffer, 1928a). As noted by Brown (1942b), such associations were likely based on misidentifications of *Mantura floridana* Crotch.

***Hippuriphila equiseti* Beller & Hatch.** This species has been found on *Equisetum* (Equisetaceae) (Beller & Hatch, 1932; Brown, 1942b; Hatch, 1971; Heikertinger, 1950).

***Hippuriphila mancula* (LeConte).** This species has been associated with *Equisetum* (Equisetaceae) (Hatch, 1971).

***Hornaltica bicolorata* (Horn).** This species has been associated with *Acalypha* (Euphorbiaceae) (Balsbaugh & Hays, 1972; Downie & Arnett, 1996; Riley *et al.*, 2002; Wilcox, 1979). In previously unpublished field work, we have found adults feeding on *A. virginica* L.

This beetle species has also been recorded from *Aesculus pavia* L. (Hippocastanaceae) and broomsedge [*Andropogon virginicus* L.] (Poaceae) (Blatchley, 1924a; Kirk, 1969). However, these occurrences were probably incidental.

***Janbechynea fulvipes* Jacoby.** Schaeffer (1905) reported the synonym *Aulacoscelis femorata* Jacoby from oak [*Quercus*] (Fagaceae).

***Jonthonota mexicana* (Champion).** This species has been collected from live oak [*Quercus*] (Fagaceae) (Barber, 1916; Schaeffer, 1905). However, it is extremely unlikely that this plant is the true host. In previously unpublished investigations, we have collected adults of this beetle species in western Texas from *Convolvulus equitans* Benth. (Convolvulaceae).

***Jonthonota nigripes* (Olivier).** This species feeds on Convolvulaceae, having been reported from *Calystegia sepium* (L.) R. Br., *Convolvulus arvensis* L., moonflower [*Ipomoea alba* L.], *Ipomoea batatas* (L.) Lam., *I. pandurata* (L.) G. F. W. Mey., and *I. purpurea* (L.) Roth (Baker, 1895; Balsbaugh & Hays, 1972; Barber, 1916; Beutenmüller, 1890a; Blatchley, 1910, 1924a; Borowiec, 1999; Carr, 1988; Chittenden, 1912b; Cockerell, 1900, 1903; Comstock *et al.*, 1931; Crosby & Leonard, 1918; Downie & Arnett, 1996; Essig, 1915b, 1958; Fall & Cockerell, 1907; Hamilton, 1895; Hatch, 1971; Jaques, 1951; Kirk, 1970; Metcalf & Metcalf, 1993; Mohyuddin, 1969a; Packard, 1877; Papp, 1984; Riley, 1870c, 1986a; Riley & Enns, 1979; Sanderson, 1899; Scott *et al.*, 1932; Smith, 1900, 1910a, 1910b, 1938, 1950; Sorensen & Baker, 1983; Swan & Papp, 1972; Ulke, 1903; Walsh & Riley, 1869e; Wickham, 1902; Wilcox, 1954, 1979). Beyond these associations, Barber (1916) indicated that Popenoe's (1878) report of "*Cassida sexpunctata*" on *Ipomoea leptophylla* J. Torr. may have been based on misidentified *J. nigripes*.

In previously unpublished investigations, we have associated *J. nigripes* in California with *Calystegia longipes* (S. Watson) Brummit. Elsewhere, we have collected adults and larvae of this beetle species from *Convolvulus arvensis*, *C. equitans* Benth., *Ipomoea leptophylla*, and *I. pandurata*. We have successfully reared this species in the laboratory on the foliage of sweet potato, *Ipomoea batatas*. Additionally, we have identified adults that were collected by Thomas O. Robbins from *Ipomoea cordatotriloba* Dennst. in central Texas.

Beyond Convolvulaceae, *J. nigripes* has been reported from Fabaceae (genus not specified), grass [Poaceae], and willow [*Salix*] (Salicaceae) (Doane *et al.*, 1936; Kirk & Balsbaugh, 1975; Whelan, 1936; Wilcox, 1979). However, these occurrences were probably adventitious.

***Keitheatus blakeae* (White).** This species has been associated with *Condalia spathulata* A. Gray (Rhamnaceae) (Clark, 1987; Riley *et al.*, 2002; White, 1944; Wilcox, 1965).

***Kuschelina barberi* (Blake).** This species has been collected from snapdragon [likely *Antirrhinum* or *Chaenorrhinum*] (Scrophulariaceae) (Blake, 1954). Also, in previously unpublished investigations, we have seen specimens labeled from Colorado in association with *Penstemon* (Scrophulariaceae).

***Kuschelina concinna* (Fabricius).** Kirk (1969) reported material collected from broomsedge [*Andropogon virginicus* L.] (Poaceae). Wray (1950, 1967) recorded this species "in" *Sarracenia flava* L. (Sarracenaceae), but this was surely an instance of the beetles being preyed upon by insectivorous plants, rather than insect herbivory. Beyond this, Andrews (1923) reported two specimens of "*Oedionychis vians* var. *concinna*" found on willow [*Salix*] (Salicaceae) in Michigan. However, Michigan is somewhat beyond the currently recognized range of this insect species, and the beetles were probably misidentified. In previously unpublished investigations in central Louisiana, we have collected adults and larvae of *K. concinna* from *Physostegia digitalis* Small (Lamiaceae).

***Kuschelina discicollis* (Crotch).** This species has been collected from *Penstemon multiflorus* Chapm. ex Benth. (Scrophulariaceae) (Flowers *et al.*, 1994; Peck & Thomas, 1998).

***Kuschelina fallax* (Melsheimer).** This species has been associated with *Agalinis fasciculata* (S. Ell.) Raf. (Scrophulariaceae) (Flowers *et al.*, 1994; Peck & Thomas, 1998). Additionally, in previously unpublished investigations in coastal Texas, we have collected adults from *A. strictifolia* (Benth.) Penn.

This beetle species has also been reported from *Trifolium* (Fabaceae) and cotton [*Gossypium*] (Malvaceae) (Blake, 1954). However, these occurrences were likely incidental.

***Kuschelina fimbriata* (Forster).** This species has been collected from thistle flowers [likely *Carduus* or *Cirsium*] (Asteraceae) and oak [*Quercus*] (Fagaceae) (Blatchley, 1924a; Dozier, 1918, 1920; Kirk, 1969). It has also been swept from grass [Poaceae] (Blatchley, 1924a), but sweeping records should not necessarily be interpreted as host associations.

***Kuschelina flavocyanea* (Crotch).** In previously unpublished investigations, we have collected adults of this species from *Dyschoriste decumbens* (Gray) O. Ktze. (Acanthaceae) in western Texas. We have also

seen material labeled from Arizona in association with *Prosopis* (Fabaceae).

***Kuschelina floridana* (Blake).** This species has been collected from *Brassica oleracea* L. (Brassicaceae) and lima bean [*Phaseolus lunatus* L.] (Fabaceae) (Blake, 1954; Staines, 1999).

***Kuschelina gibbitarsa* (Say).** This species is associated with Lamiaceae, having been reported from *Mentha* and *Teucrium canadense* L. (Balsbaugh & Hays, 1972; Blake, 1927; Craighead, 1923; Downie & Arnett, 1996; Lawson, 1991; Peterson, 1960; Riley & Enns, 1979; Sholes, 1987; Stirrett, 1924; Wilcox, 1954, 1979). In previously unpublished investigations in Texas, we have collected adults from both *Teucrium canadense* and *T. cubense* Jacq.

Beyond this, *K. gibbitarsa* has been reported from *Achillea millefolium* L. (Asteraceae) and *Hydrangea* (Hydrangeaceae) (Andrews, 1923; Blatchley, 1910; Duckett, 1920; Stirrett, 1924). However, plants are probably not normal hosts. Blatchley (1910) stated that adults hibernate beneath mullein leaves [*Verbascum*] (Scrophulariaceae), but he did not indicate that they fed upon this plant. Kirk & Balsbaugh (1975) recorded this beetle species from sod [Poaceae] under a rock, but they did not suggest a food plant relationship.

***Kuschelina horni* (Harold).** This species has been recorded from *Gerardia bignoniiflora* Small [*Aureolaria flava* (L.) Farw.] and *Dasistoma macrophylla* (Nutt.) Raf. (Scrophulariaceae) (Balsbaugh & Hays, 1972; Blake, 1954; Löding, 1945; Sholes, 1987; Wilcox, 1979). In previously unpublished investigations in Arkansas, we also have collected this beetle species from *Aureolaria*.

***Kuschelina jacobiana* (Horn).** This species has been reported from Convolvulaceae (genus not specified) and Scrophulariaceae (genus not specified) (Sholes, 1987). In previously unpublished investigations in western Texas, we have collected adults from *Chilopsis linearis* (Cav.) Sweet (Bignoniaceae).

***Kuschelina laeta* (Perbosc).** The synonym *K. interjectionis* (Crotch) has been recorded in association with *Euphorbia antisyphilitica* Zucc. (Euphorbiaceae); *Lippia* and *Phyla lanceolata* (Michx.) Greene (Verbenaceae) (Anonymous, 1954g; Balsbaugh & Hays, 1972; Blake, 1927; Townsend, 1902).

***Kuschelina miniata* (Fabricius).** This species has been recorded from *Sabal palmetto* (Walt.) Lodd. ex Schult. & Schult. f. (Arecaceae); *Hypericum setosum* L. (Clusiaceae); broomsedge [*Andropogon virginicus* L.], corn [*Zea mays* L.] (Poaceae); and *Seymeria cassioides* (J. F. Gmel.) Blake (Scrophulariaceae) (Balsbaugh & Hays, 1972; Blake, 1954; Flowers *et al.*, 1994; Kirk, 1969, 1970; Löding, 1945; Peck & Thomas, 1998; Wilcox, 1979).

This beetle species has also been reported from dwarf huckleberry [*Gaylussacia dumosa* (Andr.) Torr. & Gray] (Ericaceae) (Blake, 1927; Blatchley, 1924a; Flowers *et al.*, 1994), but this association was based on observations made prior to Blake's (1954) taxonomic revision and may therefore have involved a species of *Kuschelina* other than true *K. miniata*. Wray & Brimley (1943) reported a specimen of *K. miniata* from *Sarracenia flava* L. (Sarraceniaceae), but this was probably an instance in which the insect was prey rather than an herbivore.

Schwitzgebel & Wilbur (1942) reported a specimen of "*Oedionchis* [sic] prob. *miniata* (F.)" from *Vernonia interior* Small [*V. baldwinii* ssp. *interior* (Small) W. Z. Faust] (Asteraceae). However, their observation was made in Kansas, beyond the generally recognized range of *K. miniata*, and it was almost certainly based on another beetle species.

***Kuschelina perplexa* (Blake).** This species has been collected from a corn leaf [*Zea mays* L.] (Poaceae) (Blake, 1954). Likely, this occurrence was adventitious.

***Kuschelina petaurista* (Fabricius).** This species has been reported from *Helenium* (Asteraceae); *Cassia* (Fabaceae); loblolly pine [*Pinus taeda* L.] (Pinaceae); strawberry [*Fragaria*] (Rosaceae); *Verbascum thapsus* L. (Scrophulariaceae); Solanaceae (genus not specified); *Callicarpa* and *Verbena* (Verbenaceae) (Blake, 1927; Blatchley, 1924a; Löding, 1945; Rouse & Medvedev, 1972; Sholes, 1987). Some of these occurrences were probably adventitious. In previously unpublished investigations in southern Texas, we have collected adults from *Lantana urticoides* Hayek and *Priva lappulacea* (L.) Pers. (Verbenaceae).

***Kuschelina tenuilineata* (Horn).** This species has been reported from *Lonicera* (Caprifoliaceae) (Sholes, 1987). In previously unpublished investigations, we have identified adult specimens labeled from southeastern Arizona in association with *Anisacanthus thurberi* (Torr.) Gray (Acanthaceae).

***Kuschelina thoracica* (Fabricius).** This species has been collected from *Trichostema dichotomum* L. (Lamiaceae) (Flowers *et al.*, 1994; Peck & Thomas, 1998). Beyond this, Duckett (1920) reported collecting material by sweeping meadow grass [Poaceae]. However, sweeping records, without supporting evidence, should not be interpreted as host associations.

***Kuschelina ulkei* (Horn).** This species has been associated with *Hypericum setosum* L. (Clusiaceae) (Balsbaugh & Hays, 1972; Blake, 1954). It has also been found on flowers of Ericaceae, including *Desmodium nitida* (Bartr. ex Marshall) Small (Blake, 1927; Blatchley, 1923, 1924a).

***Kuschelina vians* (Illiger).** This species has been bred from the stem of *Polygonum pensylvanicum* L. (Polygonaceae) (Blake, 1927; Dillon & Dillon, 1961; Downie & Arnett, 1996; Wilcox, 1954, 1979). It

has also been found on *Quercus* (Fagaceae) (Blake, 1927; Dillon & Dillon, 1961; Downie & Arnett, 1996; Wilcox, 1954, 1979). Additionally, Andrews (1923) reported one specimen found on a blossom of tansy [*Tanacetum vulgare* L.] (Asteraceae), and Riley & Enns (1979) reported a specimen from *Penstemon* (Scrophulariaceae).

***Labidomera clivicollis* (Kirby).** This species feeds on Asclepiadaceae, having been recorded from *Ampelamus albidus* (Nutt.) N. L. Britton, *Asclepias exaltata* L., *A. incarnata* L., *A. pulchra* Vell., *A. sullivantii* Engelm. ex A. Gray, *A. syriaca* L., *A. tuberosa* L., *A. verticillata* L., *Cynanchum laeve* (Michx.) Pers., *C. unifarium* (Scheele) Woods. [*C. racemosum* var. *unifarium* (Scheele) E. Sundell], *C. scoparium* Nutt., *C. vincetoxicum* (L.) Pers., and *Sarcostemma cynanchoides* Decne. (Andrews, 1923; Baker & Eickwort, 1975; Balsbaugh & Hays, 1972; Beutenmüller, 1890a; Blatchley, 1896, 1910, 1924a; Chagnon, 1917, 1937; Chagnon & Robert, 1962; Clark, 2000; Comstock, 1925; Coquillett, 1883; Daccordi & LeSage, 1999; Dailey *et al.*, 1978; Dearborn & Donahue, 1993; Dickinson, 1986, 1988, 1992, 1996; Dillon & Dillon, 1961; Douglass, 1929; Downie & Arnett, 1996; Dussourd, 1999; Dussourd & Denno, 1991; Dussourd & Eisner, 1987; Edwards, 1949; Eickwort, 1977; French, 1885; Gibson, 1928; Hamilton, 1895; Harrington, 1883; Harris, 1841; Hatch, 1971; Hsiao, 1986, 1988; Hsiao & Hsiao, 1983; Isman *et al.*, 1977; Jaques, 1951; Jolivet, 1995a; Jolivet & Hawkeswood, 1995; Jolivet & Petitpierre, 1976a; Jolivet & Verma, 2002; Kirk & Balsbaugh, 1975; Klots & Klots, 1972; Lawson, 1991; Messina & Root, 1980; Morris, 1914a, 1914b; Packard, 1888; Palmer, 1982, 1984, 1985a, 1985b; Papp, 1984; Peterson, 1960; Price & Willson, 1979; Puttler & Long, 1983; Riley & Enns, 1979; Riley *et al.*, 2002; Rouse & Medvedev, 1972; Smith, 1900, 1910a; Swan & Papp, 1972; Timmermans *et al.*, 1992; Ulke, 1903; Vasconcellos-Neto & Jolivet, 1994; Weiss & Dickerson, 1921; Wickham, 1896a; Wilcox, 1954, 1972, 1979; Williams, 1988b). Under laboratory conditions, *L. clivicollis* has also been reared on *Asclepias amplexicaulis* Sm. (Eickwort, 1977; Daccordi & LeSage, 1999; Price & Willson, 1979).

In addition to the above mentioned reports, *Chrysomela trimaculata* Linnaeus has been reported in association with *Asclepias syriaca* (Harris, 1863). Although the true identity of *C. trimaculata* is uncertain, such associations with *Asclepias* were almost certainly based on *L. clivicollis*.

Beyond Asclepiadaceae, *L. clivicollis* has been reported from *Daucus carota* L. (Apiaceae); *Helianthus annuus* L., dandelion [*Taraxacum*] (Asteraceae); *Calystegia sepium* (L.) R. Br. (Convolvulaceae); yellow locust [*Robinia pseudoacacia* L.] (Fabaceae); fir [*Abies*], hemlock [*Tsuga*] (Pinaceae); marsh grass [*Spartina*] (Poaceae); and prickly ash [*Zanthoxylum*] (Rutaceae) (Dearborn & Donahue, 1993; Douglass, 1929; French, 1885; Hatch, 1924b; Hopkins, 1893; Johnson, 1915; Lago & Mann, 1987; Rogers, 1988; Wilcox, 1972). However, these occurrences were almost certainly either incidental or based on misidentified plants. Additionally, beetles have been swept from *Solidago* (Asteraceae) and *Elymus virginicus* L. (Poaceae) (Hendrickson, 1930b; Messina & Root, 1980), but sweeping records should not necessarily be interpreted as host associations. Blatchley (1896), Dillon & Dillon (1961), and Klots & Klots (1972) stated that this beetle species hibernates beneath leaves of mullein [*Verbascum*] (Scrophulariaceae), but they did not suggest that this plant was used as food. Dickinson (1992) reported oviposition on *Acer* (Aceraceae), Asteraceae (genus not specified), *Cornus* (Cornaceae), Cyperaceae (genus not specified), *Equisetum* (Equisetaceae), Lamiaceae (genus not specified), Poaceae (genus not specified), and *Typha* (Typhaceae). However, she did not regard these as food plants. Judd (1959) recorded *L. clivicollis* from *Sarracenia purpurea* L. (Sarraceniaceae), but it was properly noted that the insect was the victim rather than the feeder.

***Lema balteata* LeConte.** This species is associated with Solanaceae, having been recorded from *Physalis* and “*Solanum* sp., probably *S. nodiflorum* Jacq.” (Leech & Green, 1955; Schaeffer, 1905; White, 1993). It has also been reported from *Thurberia thespesioides* A. Gray [*Gossypium thurberi* Todaro] (Malvaceae) (Pierce & Morrill, 1914; White, 1993), but this occurrence was probably adventitious.

***Lema circumvittata* Clark.** This species has been reported from nightshade [*Solanum*] (Solanaceae) (White, 1993).

***Lema confusa* Chevrolat.** This species, including populations in Latin America, has been reported from *Brugmansia arborea* auct. non (L.) Steud. [*B. candida* Pers.], *B. suaveolens* (Humb. & Bonpl. ex Willd.) Bercht. & K. Presl, *Datura innoxia* P. Mill., *D. stramonium* L., and *Physalis* (Solanaceae) (Bruner *et al.*, 1975; Moldenke, 1971; Schmitt, 1988; White, 1993). It has also been recorded from *Cucurbita* (Cucurbitaceae); *Glycine*, *Phaseolus* (Fabaceae); *Sesamum* (Pedaliaceae); and *Gossypium* (Malvaceae) (Maes & Staines, 1991; Schmitt, 1988). However, it is doubtful that these non-solanaceous plants are true hosts.

***Lema conjuncta* Lacordaire.** This species has been associated with *Solanum carolinense* L. (Solanaceae) (Beutenmüller, 1890a). Additionally, in previously unpublished investigations conducted in east-central Texas, we have collected adults from *Physalis heterophylla* var. *heterophylla* Nees (Solanaceae).

This beetle species has also been collected from *Aesculus* (Hippocastanaceae) (Balsbaugh & Hays, 1972; Löding, 1945; White, 1993), but this occurrence was likely incidental. Additionally, it has been swept from oak [*Quercus*] (Fagaceae) (Blatchley, 1924a; Dozier, 1918, 1920; White, 1993), but this should not be

interpreted as a host association.

***Lema daturaphila* Kogan & Goeden.** This species, often cited as *L. trilineata* (Olivier) or *L. trilinea* White, is associated with Solanaceae, having been reported from *Acnistus umbellatus* (Ruiz & Pav.) Miers, *Atropa belladonna* L., *Brugmansia candida* Pers., *Cestrum aurantiacum* Lindl., *Chamaesaracha coniodes* (Moric. ex Dunal) Britt., *C. coronopus* (Dun.) A. Gray, *Datura discolor* Bernh., *D. inoxia* P. Mill., *D. metel* L., *D. meteloides* Dunal, *D. ferox* auct. non L. [*D. quercifolia* Kunth], *D. stramonium* L., *Hyoscyamus niger* L., *Iochroma*, *Lycopersicon esculentum* Mill., *Nicandra physalodes* (L.) P. Gaertn., *Nicotiana glauca* Grah., *N. tabacum* L., petunia [*Petunia*], *Physalis alkekengi* L., *P. floridana* Rydb., *P. grandiflora* Hook., *P. heterophylla* Nees, *P. ixocarpa* Hornem., *P. lanceolata* Michx., *P. mollis* Nutt., *P. peruviana* L., “tomate de cáscara” [*P. pubescens* L.], *P. virginiana* P. Mill., *Salpichroa rhomboidea* (Gill. & Hook.) Miers, *Solandra guttata* Don, *S. hartwegi* C. F. Ball [*S. maxima* (Sessé & Moc.) P. S. Green], *S. nitida* Zuccagni, *Solanum americanum* P. Mill., horse-nettle [*S. carolinense* L.], *S. dulcamara* L., eggplant [*S. melongena* L.], and *S. tuberosum* L. (Andrews, 1923; Anonymous, 1959v, 1962g, 1963p, 1964d, 1964m, 1967b, 1968a, 1969n, 1969s; Arnett, 1976, 1985; Au, 1967a, 1967b; Baker, 1895; Balsbaugh & Hays, 1972; Beirne, 1971; Bennett *et al.*, 1999; Beutenmüller, 1890a; Blackaller, 1945; Bland & Jaques, 1978; Blatchley, 1910, 1924a; Borror & White, 1970; Borror *et al.*, 1989; Brimley, 1938; Brisley, 1925, 1928; Britton, 1918a; Brown, 1959; Carr, 1988; Cassidy, 1889; Chagnon, 1937; Chagnon & Robert, 1962; Clark, 2000; Cockerell, 1902; Comstock, 1925; Cranshaw, 1992; Criddle & Handford, 1933; Crosby & Leonard, 1918; Dearborn & Donahue, 1993; Dillon & Dillon, 1961; Douglass, 1929; Downie & Arnett, 1996; Dozier, 1918; Dudley *et al.*, 1952; Edwards, 1949; Fall & Cockerell, 1907; Fitch, 1865; Force, 1966a; Fullaway & Krauss, 1945; Hardy, 1966; Harrington, 1883; Harris, 1841, 1851, 1863; Hatch, 1924b; Holdaway, 1941; Hopkins & Rumsey, 1896; Hsiao, 1986; Jaques, 1951; Jolivet, 1977, 2001; Jolivet & Hawkeswood, 1995; Jolivet & Verma, 2002; Kaufmann, 1967; Kawamura, 1973; Kerr & Hansen, 1959; Kerr & Olney, 1960; Kirk, 1970; Kirk & Balsbaugh, 1975; Kogan & Goeden, 1969, 1970a, 1970b, 1970c, 1971; Krauss, 1941; Latheef & Irwin, 1980; Lawson, 1991; Lintner, 1888; Luger, 1899; Marcovitch, 1916; Matayoshi, 1970; Miyahira, 1966a, 1966b; Miyahira & Tsuha, 1967; Monrós, 1959a; Moore, 1937; Morris, 1913, 1914b; Morton & Vencel, 1998; Müller & Hilker, 2003; Norris & Kogan, 2000; Omer-Cooper & Miles, 1951; Packard, 1877, 1888; Pallister, 1953; Papp, 1984; Patch, 1913; Peterson, 1960; Popenoe, 1877; Puttler, 1966; Puttler & Long, 1983; Radcliffe *et al.*, 1990; Riley, 1869a; Sailsbury, 1943; Sanderson & Peairs, 1931; Schaeffer, 1928a; Schmitt, 1988; Sengupta, 1957; Shands & Landis, 1964; Smith, 1943; Spawn, 1963; Stoner, 1957c; Swan & Papp, 1972; Thomas, 1943; Ulke, 1903; Vencel & Morton, 1998a, 1998b, 1999; Vencel *et al.*, 1999; Walsh, 1866c; Walsh & Riley, 1868a, 1869e; Westcott, 1946; White, 1983, 1993; White & Day, 1979; Wickham, 1902; Wilcox, 1954, 1979; Yoshioka & Higa, 1966). However, some of these associations may have been based on misidentified specimens of *Lema trivittata* Say, the two species frequently being confused.

In addition to the above-mentioned reports, *L. trilineata* has also been recorded from trumpetvine (Anonymous, 1968s). Likely, this is a local name for *Datura*, rather than some member of the trumpet vine family (Bignoniaceae). Knowlton (1954b) recorded “*Lema* sp. (either *lecontei* Cl. or *californica* Schffr.)” severely damaging *Datura*. While *L. californica* Schaeffer is a synonym of *L. daturaphila*, *L. lecontei* Clark is a synonym of *L. trivittata* Say.

Beyond Solanaceae, *L. daturaphila* has been reported from *Amaranthus* (Amaranthaceae); *Asclepias syriaca* L. (Asclepiadaceae); sunflower [*Helianthus*], *Solidago* (Asteraceae); papaya [*Carica*] (Caricaceae); bindweed [likely *Calystegia*, *Convolvulus*, or *Ipomoea*] (Convolvulaceae); castorbean [*Ricinus communis* L.] (Euphorbiaceae); *Cercis canadensis* L., soybean [*Glycine max* (L.) Merr.], alfalfa [*Medicago sativa* L.], bean [likely *Phaseolus vulgaris* L.], clover [likely *Trifolium*] (Fabaceae); gooseberry [*Ribes*] (Grossulariaceae); salvia [*Salvia*] (Lamiaceae); cotton [*Gossypium*] (Malvaceae); *Oenothera* (Onagraceae); oats [*Avena*], sorghum [*Sorghum*], *Zea mays* L. (Poaceae); and *Vitis rotundifolia* Michx. (Vitaceae) (Carr, 1988; Cooper, 1964; Dailey *et al.*, 1978; Deitz *et al.*, 1976; Dickerson & Weiss, 1920; Douglass, 1929; Everly, 1938; Holdaway, 1941; Huber, 1966; Jackman, 1979f; Kirk, 1969; Lee, 1949; McGiffin & Neunzig, 1985; Smith, 1938; Whelan, 1936; White, 1993; White & Day, 1979; Wilcox, 1979; Yoshioka, 1968). However, these occurrences were likely either incidental or based on misidentification.

Under experimental conditions, *L. daturaphila* has fed on lettuce [*Lactuca*] (Asteraceae); *Brassica* (Brassicaceae); *Beta* (Chenopodiaceae); *Ipomoea* (Convolvulaceae); *Asparagus* (Liliaceae); *Rumex* (Polygonaceae); *Capsicum frutescens* L. [*C. annuum* L.], *Datura discolor*, *D. leichhardtii* F. Muell ex Benth., *D. meteloides*, *D. pruinosa* Greenm., *D. quercifolia*, *D. stramonium*, *D. wrightii* Regel, *Nicotiana glauca*, *Petunia*, *Physalis francheti* Masters [*Physalis alkekengi* var. *francheti* (Mast.) Machino], *Solanum melongena*, and *S. tuberosum* (Solanaceae) (Bennett *et al.*, 1999; Force, 1966a; Jolivet, 2001; Kogan & Goeden, 1970c; Morton & Vencel, 1998; Schmitt, 1988). However, feeding was slight on some of these plants, with the insects not surviving to the adult stage.

***Lema melanofrons* White.** This species has been reported defoliating *Physalis viscosa* L. (Solanaceae) (White, 1993). It has also been recorded from *Solanum* (Solanaceae) (White, 1993).

***Lema nigrovittata* (Guérin-Ménéville).** This species, including populations in Mexico, has been recorded from belladonna [*Atropa belladonna* L.], *Brugmansia*, *Cestrum aurantiacum* Lindl., angel's trumpet [*Datura innoxia* P. Mill.], *Datura metel* L., *D. meteloides* Dunal, *D. tatula* L. [*D. stramonium* L.], *Lycopersicon esculentum* Mill., tomatillo [*Physalis ixocarpa* Hornem.], poha [*Physalis peruviana* L.], *Physalis pubescens* L., eggplant [*Solanum melongena* L.], and *Solanum tuberosum* L. (Solanaceae) (Anonymous, 1962p, 1962q; Blaisdell, 1892; Brisley, 1928; Carr, 1988; Essig, 1915b, 1958; Fall, 1901; MacGregor & Gutiérrez, 1983; Pallister, 1953; Sengupta, 1957; White, 1993).

Beyond these records, this beetle species has been reported from Hawaii in association with *Brugmansia arborea* auct. non (L.) Steud. [*B. candida* Pers.] and *Datura* (Ehrhorn, 1936; Illingworth, 1938). However, *L. nigrovittata* apparently does not occur in Hawaii (Nishida, 2002). These reports were probably based on misidentified *Lema daturaphila* Kogan & Goeden.

***Lema opulenta* Gemminger & Harold.** This species has been recorded from *Solanum triquetrum* Cav. and Irish potato [*S. tuberosum* L.] (Solanaceae) (White, 1993). It has also been reported from lettuce [*Lactuca*] (Asteraceae), squash [*Cucurbita*] (Cucurbitaceae), *Gossypium hirsutum* L. (Malvaceae), and corn [*Zea mays* L.] (Poaceae) (Moreno & Bibby, 1943; White, 1993), but these occurrences were likely adventitious.

In previously unpublished investigations, we have collected adults of this beetle species from *Solanum americanum* P. Mill. and *S. triquetrum* Cav. (Solanaceae) in southern Texas. We have also found criocerine larvae, presumably belonging to this species, on *S. triquetrum*.

***Lema pubipes* Clark.** This species has been reported from pigweed [*Amaranthus*] (Amaranthaceae) and cucumber [*Cucumis sativus* L.] (Cucurbitaceae) (White, 1993). However, these occurrences were likely incidental.

***Lema puncticollis* (Curtis).** This Palearctic species was intentionally released in North America, but it is probably not established. Often incorrectly called *L. cyanella* (Linnaeus), it has been reported from *Carduus*, *Cirsium arvense* (L.) Scop., *C. drummondii* J. Torr. & A. Gray, *C. oleraceum* (L.) Scop., *C. palustre* (L.) Scop., and *C. vulgare* (Savi) Tenn. (Asteraceae) (Batra *et al.*, 1981; Biondi, 1993; Campobasso *et al.*, 1999; Jolivet, 1977, 2001; Lopatin, 1984; Maltby *et al.*, 1973; Mohr, 1966; Pemberton & Hoover, 1980; Peschken, 1984; Peschken & Johnson, 1979; Schmitt, 1988; Sengupta, 1957; Steinhausen, 1996; Vig, 1996; Vig & Rozner, 1996; White, 1993, 1996b; Zwölfer, 1969). Of these plants, *C. arvense* is the preferred host.

Under experimental conditions, this beetle species has fed on *Carduus crispus* L., *C. defloratus* L., *C. nutans* L., *Cirsium acaule* (L.) Scop., *C. brevistylum* Cronq., *C. drummondii*, *C. flodmanii* (Rydb.) Arthur, *C. foliosum* (Hook.) DC., *C. occidentale* (Nutt.) Jeps., *C. quercetorum* (Gray) Jeps., *C. rivulare* (Jacq.) All., *C. undulatum* (Nutt.) Spreng., *Onopordum*, and *Silybum marianum* (L.) Gaertn. (Asteraceae) (Batra *et al.*, 1981; Gassmann, 1995; Julien & Griffiths, 1998; Peschken, 1984; Peschken & Johnson, 1979; Riley *et al.*, 2002; Schmitt, 1988; White, 1993, 1996b; Zwölfer, 1969). However, some of these plants may not be hosts under natural conditions.

True *Lema cyanella* is an Old World species that is associated with various species of Poaceae (Sengupta, 1957). Although this name has often been misapplied to *L. puncticollis*, the two species are different.

***Lema solani* Fabricius.** This species is associated with Solanaceae, having been recorded from *Nicotiana tabacum* L., *Solanum nigrum* L. [a North American record, therefore probably *S. americanum* P. Mill.], *S. carolinense* L., and *S. tuberosum* L. (Beutenmüller, 1890a; Blatchley, 1924a; Brimley, 1938; Clark, 2000; Downie & Arnett, 1996; Dozier, 1918, 1920; Fabricius, 1801; Schwarz, 1878; White, 1993). In previously unpublished field work, we have collected adults from *Solanum americanum* in Louisiana.

This beetle species has also been reported from cabbage [*Brassica oleracea* L.] (Brassicaceae), bean [likely *Phaseolus vulgaris* L.] (Fabaceae), and “*Bombeya*?” [possibly *Dombeya*] (Sterculiaceae) (White, 1993). However, these occurrences were likely incidental.

***Lema trabeata* Lacordaire.** This species is associated with Solanaceae, having been recorded from pepper [*Capsicum*], *Chamaesaracha coniodes* (Moric. ex Dunal) Britt., *Datura stramonium* L., *Physalis angulata* L., and *P. pubescens* L. (White, 1993). In previously unpublished investigations conducted in western Texas, we have collected adults from a species of *Physalis* identified as probably *P. subulata* var. *neomexicana* (Rydb.) Waterfall.

Beyond Solanaceae, *L. trabeata* has also been reported from cucumber [*Cucumis sativus* L.] (Cucurbitaceae) and *Ligustrum* (Oleaceae) (White, 1993). However, these occurrences were likely incidental.

***Lema trivittata* Say.** This species has been recorded in association with Solanaceae, including *Atropa belladonna* L., *Chamaesaracha coniodes* (Moric. ex Dunal) Britt., *Datura quercifolia* Kunth, *D. stramonium* L., *Hyoscyamus*, tomato [*Lycopersicon esculentum* Mill.], *Physalis philadelphica* Lam., *P. peruviana* L., *Solanum elaeagnifolium* Cav., Jerusalem-cherry [*S. pseudocapsicum* L.], and *S. tuberosum* L. (Anonymous,

1965r, 1965t; Brisley, 1928; Clark, 2000; Downie & Arnett, 1996; Hsiao, 1986; Kirk, 1969; Maltby *et al.*, 1973; Peterson & Dively, 1981; Puttler, 1966; Riley *et al.*, 2002; Schmitt, 1988; Trippel, 1934; Vencel & Morton, 1999; White, 1993; White & Day, 1979; Wilcox, 1979).

Additionally, Everly (1938) reported that beetles questionably identified as the synonym *L. lecontei* Clark were very abundant on *Solanum nigrum* L. [a North American record, therefore probably *S. americanum* P. Mill.]. Knowlton (1955a) stated that “*Lema* sp., prob. *lecontei* Cl.” was severely damaging to foliage of *Datura*. Earlier (Knowlton, 1954b), he recorded “*Lema* sp. (either *lecontei* Cl. or *californica* Schffr.)” severely damaging *Datura*. While *L. lecontei* is a synonym of *L. trivittata*, *L. californica* Schaeffer is a synonym of *L. daturaphila* Kogan & Goeden.

In previously unpublished field work in Missouri, we have found the subspecies *L. t. trivittata* feeding on *Physalis heterophylla* Nees. In Wisconsin, Andrew H. Williams (pers. comm.) has associated this subspecies with *P. heterophylla*, *P. longifolia* Nutt., and *P. virginiana* P. Mill.

Beyond Solanaceae, *L. trivittata* has been recorded from *Amaranthus* (Amaranthaceae); parsley [*Petroselinum crispum* (Mill.) Nyman *ex* A. W. Hill] (Apiaceae); sunflower [*Helianthus*] (Asteraceae); wild sweetpotato [*Ipomoea pandurata* (L.) G. F. W. Mey.] (Convolvulaceae); *Melilotus indica* (L.) All., string bean [*Phaseolus vulgaris* L.], English pea [*Pisum sativum* L.] (Fabaceae); okra [*Abelmoschus esculentus* (L.) Moench], cotton [*Gossypium*] (Malvaceae); wild barley [*Hordeum*], wheat [*Triticum*] (Poaceae); and strawberry [*Fragaria*] (Rosaceae) (Balsbaugh & Hays, 1972; Schmitt, 1988; Trippel, 1934; White, 1993; White & Day, 1979). Everly (1938) reported beetles, questionably identified as the synonym *L. lecontei* Clark, from sweet corn leaves [*Zea mays* L.] (Poaceae). Even so, all of these non-solanaceous occurrences were likely adventitious.

Beyond the above-mentioned records, the subspecies *L. t. medionota* Schaeffer has been reported from lima bean [*Phaseolus lunatus* L.], *Phaseolus vulgaris* (Fabaceae); *Citrus sinensis* (L.) Osbeck (Rutaceae); *Physalis* and Irish potato [*Solanum tuberosum*] (Solanaceae) (White, 1993). However, the records from non-solanaceous plants were probably based on incidental occurrences. White (1993) speculated that “*Phaseolus viscosa*” might be a host, but this was apparently an error, *Physalis viscosa* L. being intended.

***Leptinotarsa behrensi* Harold.** In Mexico, this species is associated with *Montanoa leucantha* (Lag.) S. F. Blake and *Tithonia fruticosa* S. Canby & Rose (Asteraceae) (Hsiao, 1988, 1989; Hsiao & Hsiao, 1983; Jacques, 1988; Jolivet, 1991b; Jolivet & Verma, 2002).

***Leptinotarsa collinsi* Wilcox.** In previously unpublished observations, we have collected a small series (seven adults) from *Acacia greggii* A. Gray (Fabaceae) in Arizona. We have also collected a specimen by sweeping *Salix* (Salicaceae) in Texas. We have seen Arizona specimens labeled from *Parkinsonia florida* (Benth. *ex* A. Gray) S. Watson (Fabaceae).

***Leptinotarsa decemlineata* (Say).** The often pestiferous association of this species with *Solanum tuberosum* L. (Solanaceae) is extremely well documented (Abdullah & Qureshi, 1969; Anaya-Rosales *et al.*, 1987; Andrews, 1923; Arnett, 1985; Arnett & Jacques, 1981; Baerg, 1949; Barber, 1933; Bechyné, 1956; Beirne, 1971; Beller & Hatch, 1932; Beutenmüller, 1890a; Biondi, 1993; Bland & Jaques, 1978; Blatchley, 1910, 1924a; Boiteau, 1983a, 1983b, 1998; Bongers, 1965, 1970; Borror & White, 1970; Borror *et al.*, 1989; Brimley, 1938; Brisley, 1925; Britton, 1918a; Brown *et al.*, 1980; Brues, 1940; Bruner *et al.*, 1975; Cameron, 1915, 1935; Cañas Castro, 2000; Cantelo *et al.*, 1987; Cappaert, 1988; Cappaert *et al.*, 1991a, 1991b; Carr, 1988; Carter, 1987; Casagrande, 1985, 1987; Chagnon, 1937; Chagnon & Robert, 1962; Chin, 1950; Chittenden, 1902a, 1907a, 1912b; Chittenden & Orton, 1923; Cibula *et al.*, 1965, 1967; Clark, 2000; Clausen, 1978; Comstock, 1925; Comstock *et al.*, 1931; Cooley, 1916; Costa & Gaugler, 1989; Cox, 1994; Cranshaw, 1992; Criddle, 1911, 1912, 1913; Crosby & Leonard, 1918; Crowson, 1981; Daniels, 1937; Davidson & Lyon, 1987; Dearborn & Donahue, 1993; De Wilde, 1958; Dillon & Dillon, 1961; Dimock & Tingey, 1985, 1987, 1988; Dimock *et al.*, 1986; Douglass, 1929; Downie & Arnett, 1996; Drummond *et al.*, 1987; Dudley *et al.*, 1952; Dustan, 1932, 1936; Eickwort, 1977; Essig, 1958; Felt, 1902a; Ferro, 1985; Fitch, 1864; Flanders *et al.*, 1992, 1998; Follett *et al.*, 1996; Folsom *et al.*, 1949; França *et al.*, 1994; Garman, 1896; Gentry, 1954; Ghidui & Silcox, 1984; Ghidui *et al.*, 1990; Gibson, 1976; Gibson *et al.*, 1925; Groden & Casagrande, 1986; Hare, 1983, 1990; Hare & Andreadis, 1983; Hare & Kennedy, 1986; Hare & Moore, 1988; Harrington, 1883; Harrison, 1987; Harrison & Mitchell, 1988; Hatch, 1971; Hilburn & Gordon, 1989; Hopkins, 1891a, 1891b; Hopkins & Rumsey, 1896; Horning & Barr, 1970; Horton & Capinera, 1987a, 1987b, 1990; Horton *et al.*, 1988; Hsiao, 1974, 1978, 1982, 1985, 1986, 1988; Hsiao & Fraenkel, 1968a, 1968b; Hsiao & Hsiao, 1983; Hutson, 1937; Isely, 1935; Jacobson & Hsiao, 1983; Jacques, 1985, 1988; Jansson *et al.*, 1988, 1989; Jermy, 1961, 1994; Johnson & Ballinger, 1916; Jolivet, 1991b, 2001; Jolivet & Hawkeswood, 1995; Jolivet & Verma, 2002; Kennedy, 2003; Kennedy *et al.*, 1985; King & Saunderson, 1984; Kirk, 1969, 1970; Kirk & Balsbaugh, 1975; Klots & Klots, 1972; Knowlton, 1933, 1935, 1939, 1955c; Kogan & Goeden, 1971; Kowalski *et al.*, 2000; Kroiss *et al.*, 2002; Latheef & Harcourt, 1972; Little, 1972; Lu & Logan, 1993, 1994a,

1994b; Lu *et al.*, 1997; Lugger, 1899; MacGregor & Gutiérrez, 1983; Mail & Salt, 1933; Matheson, 1944; McIndoo, 1935; Melville *et al.*, 1985; Mena-Covarrubias *et al.*, 1996; Metcalf & Metcalf, 1993; Milliron, 1958; Mitchell, 1994; Mohr, 1966; Morrill, 1917; Morrison *et al.*, 1967; Neal *et al.*, 1989; Neck, 1983; Norris & Kogan, 2000; Orton & Chittenden, 1917; Packard, 1877, 1888; Papp, 1984; Patch, 1913; Peck & Thomas, 1998; Pedigo, 1996; Pelletier & Smilowitz, 1991a, 1991b; Pelletier *et al.*, 1999; Peterson, 1960; Petitpierre *et al.*, 2000; Popenoe, 1909; Portman & Manis, 1954; Powell, 1932; Puttler & Long, 1983; Radcliffe, 1982; Radcliffe *et al.*, 1990; Riley, 1869a, 1871c, 1874a; Riley & Enns, 1979; Ross, 1965; Ruberson *et al.*, 1989; Sanderson & Peairs, 1931; Selman, 1994; Severin, 1919b; Shands & Landis, 1964; Sherman, 1904; Sikinyi *et al.*, 1997; Silcox *et al.*, 1985; Smith, 1893a, 1900, 1910a, 1943; Somes, 1916; Sorensen & Baker, 1983; Sperling & Mitchell, 1991; Swain, 1948; Swan & Papp, 1972; Szentesi & Jermy, 1993; Taché, 1877; Timmermans *et al.*, 1992; Tower, 1906, 1918; Walsh, 1866c; Walsh & Riley, 1868a; Weber & Ferro, 1996; Weber *et al.*, 1995; Webster, 1888, 1915; Wegorek, 1959; Westcott, 1946; Westover & Leach, 1943; White, 1935, 1983; Wilcox, 1954, 1979; Williams, 1893, 1987, 1988a, 1988b; Wright *et al.*, 1985; Xu & Long, 1995, 1997; Yencho & Tingey, 1994; Zehnder *et al.*, 1992).

This beetle species, including populations in Mexico and the Palearctic Region, feeds on other Solanaceae as well, having been reported from *Atropa belladonna* L., *Capsicum annuum* L., *C. indicum* Dierb., *Datura stramonium* L., *Hyoscyamus niger* L., *Lycium halimifolium* P. Mill. [*N. barbarum* L.], *L. ruthenicum* Murr., *Lycopersicon esculentum* Mill., *Nicandra physalodes* (L.) P. Gaertn., *Nicotiana alata* Link & Otto, *N. sanderae* Hort. ex W. Watson, *N. tabacum* L., *Petunia x hybrida* (Hook.) Vilm., *Physalis alkekengi* L., *P. heterophylla* Nees, *P. lanceolata* Michx., *P. pubescens* L., *Saracha jaltomata* Schl., *Solanum americanum* P. Mill., *S. angustifolium* Mill., *S. aviculare* G. Forst., wonderberry [*S. burbankii* Bitter], *S. cardiophyllum* Lindl., *S. carolinense* L., *S. dimidiatum* Raf., *S. discolor* R. Br., *S. dulcamara* L., *S. elaeagnifolium* Cav., *S. fructotecto* Cav., *S. jasminoides* Paxt., *S. laciniatum* Ait., *S. laurifolium* Lf., *S. luteum* Mill., *S. marginatum* L. f., *S. melongena* L., *S. nigrum* L., *S. robustum* H. L. Wendl., *S. rostratum* Dunal, *S. diversifolium* Schldtl. [*S. rudepannum* Dunal], *S. sarrachoides* Sendt., “*Solanum sieglingae*,” *S. sisymbriifolium* Lam., *S. subinerme* Jacq., *S. triflorum* Nutt., *S. triquitrum* Cav., *S. villosum* Mill., *S. warszewiczii* Lambertye, and purple nightshade [*S. xanti* A. Gray] (Anaya-Rosales *et al.*, 1987; Anonymous, 1958d, 1970b, 1970g; Arnett, 1985; Arnett & Jacques, 1981; Baerg, 1949; Balsbaugh & Hays, 1972; Barber, 1933; Beirne, 1971; Beller & Hatch, 1932; Beutenmüller, 1890a; Blatchley, 1910, 1924a; Bongers, 1965, 1970; Brimley, 1938; Brisley, 1925; Brown *et al.*, 1980; Brues, 1940; Burke, 1963; Cameron, 1935; Cañas Castro, 2000; Cappaert, 1988; Cappaert *et al.*, 1991a, 1991b; Carr, 1988; Casagrande, 1985, 1987; Chin, 1950; Chittenden, 1907a, 1912b, 1924c; Chittenden & Orton, 1923; Chupp & Leiby, 1953; Cibula *et al.*, 1965, 1967; Clark, 2000; Clausen, 1978; Cockerell, 1897; Comstock, 1925; Comstock *et al.*, 1931; Cox, 1994; Cranshaw, 1992; Criddle, 1912, 1913; Crosby & Leonard, 1918; Daniels, 1937, 1963; Davidson & Lyon, 1987; Douglass, 1929; Drummond *et al.*, 1987; Dudley *et al.*, 1952; Dustan, 1932, 1936; Essig, 1958; Farrier, 1959; Ferro, 1985; Fitch, 1864; Flanders *et al.*, 1992; Follett *et al.*, 1996; Fox & Stirrett, 1952; França *et al.*, 1994; Gentry, 1954; Ghidui & Silcox, 1984; Ghidui *et al.*, 1990; Gibson, 1928; Gibson *et al.*, 1925; Goeden, 1971a; Hare, 1983, 1990; Hare & Andreadis, 1983; Hare & Kennedy, 1986; Harrington, 1883; Harrison, 1987; Harrison & Mitchell, 1988; Hatch, 1971; Horton & Capinera, 1987a, 1987b, 1990; Horton *et al.*, 1988; Hsiao, 1974, 1978, 1982, 1985, 1986, 1988, 1989; Hsiao & Fraenkel, 1968a, 1968b; Hsiao & Hsiao, 1983; Isely, 1935; Jacobson & Hsiao, 1983; Jacques, 1985, 1988; Jansson *et al.*, 1988, 1989; Jenkins, 1966; Jermy, 1961, 1994; Johnson & Ballinger, 1916; Jolivet, 1991b, 1998c; Jolivet & Hawkeswood, 1995; Jolivet & Verma, 2002; Kennedy, 2003; Kennedy & Sorensen, 1985; Kennedy *et al.*, 1983, 1985; King & Saunder, 1984; Kirk, 1970; Kirk & Balsbaugh, 1975; Knab, 1908; Knowlton, 1933, 1935; Kogan & Goeden, 1971; Kowalski *et al.*, 2000; Landis, 1962, 1964a, 1964b; Latheef & Harcourt, 1972, 1973, 1974; Lawson, 1991; Linduska, 1978; Little, 1972; Lu & Logan, 1993, 1994a, 1994b; Lu *et al.*, 1997; Lugger, 1899; MacGregor & Gutiérrez, 1983; Mail & Salt, 1933; Massey, 1964; Matheson, 1944; McIndoo, 1935; Mena-Covarrubias *et al.*, 1996; Metcalf & Metcalf, 1993; Milliron, 1958; Mitchell, 1994; Moldenke, 1971; Morgan, 1911; Morris, 1914a, 1914b; Morrison *et al.*, 1967; Neck, 1983; Norris & Kogan, 2000; Olckers *et al.*, 1995; Orton & Chittenden, 1917; Packard, 1877; Papp, 1984; Peck & Thomas, 1998; Pelletier & Smilowitz, 1991b; Peterson, 1960; Peterson & Schalk, 1994; Petitpierre *et al.*, 2000; Pirone, 1970; Popenoe, 1877; Portman & Manis, 1954; Powell, 1932; Radcliffe, 1982; Radcliffe *et al.*, 1990; Randolph & Massey, 1964; Riley, 1869a, 1874a, 1884; Riley & Enns, 1979; Schalk & Stoner, 1979; Seibels, 1963b; Selman, 1994; Severin, 1919b; Shands & Landis, 1964; Sherman, 1904; Sikinyi *et al.*, 1997; Silcox & Ghidui, 1986; Silcox *et al.*, 1985; Smith, 1900, 1910a, 1940, 1943; Somes, 1916; Sorensen & Baker, 1983; Swan & Papp, 1972; Szentesi & Jermy, 1993; Taché, 1877; Thomas, 1943; Timmermans *et al.*, 1992; Tower, 1906, 1918; Tucker, 1910; Walsh, 1865; Walsh & Riley, 1868a; Weber & Ferro, 1996; Weber *et al.*, 1995; Wegorek, 1959; Westcott, 1946; White, 1935; Wilcox, 1979; Williams, 1987, 1988a, 1988b; Xu & Long, 1995, 1997; Zehnder *et al.*, 1992). In a personal communication from Michael C. Thomas, he has

stated that *L. decemlineata*, both adults and larvae, feeds on *Solanum viarum* Dunal [*S. reflexum* Schrank] in Florida. *Solanum rostratum* was apparently the normal host prior to the widespread cultivation of *S. tuberosum*.

Some workers have reported *L. decemlineata* from sandbur, sand-bur, sandburr, or sand burr (Pedigo, 1996; Sanderson & Peairs, 1931; Westcott, 1946; White, 1983). Although sandbur is normally the common name of *Cenchrus* (Poaceae), these reports were apparently based instead on *Solanum rostratum*. Farrier (1956b) recorded larvae of *L. decemlineata* from nettle. Although nettle is normally the common name for *Urtica* (Urticaceae), this report was likely in reference to horsenettle, the common name for *Solanum carolinense*.

Under experimental conditions, *L. decemlineata* has fed on many of the solanaceous plants mentioned above, as well as on *Anisodus luridus* Link, *Atropanthe sinensis* (Hemsl.) Pascher, *Brugmansia arborea* auct. non (L.) Steud. [*B. candida* Pers.], *B. sanguinea* (Ruiz & Pav.) D. Don, *Datura bernhardii* Lundstr., “*Datura caldasii*,” *D. ceratocaula* Ortega, *D. chlorantha* Hook., *D. gigantea* Huber, *D. inermis* Juss. ex Jacq., *D. inoxia* P. Mill., *D. leichhardtii* F. Muell ex Benth., *D. meteloides* Dunal, *D. quercifolia* Kunth, *Hyoscyamus albus* L., *Lycium chinense* Mill., *Lycopersicon racemigerum* Lange [likely a hybrid of *Lycopersicon esculentum* and *L. pimpinellifolium* (L.) Mill.], *L. hirsutum* Dunal, *Mandragora officinarum* L., *Nicandra violacea* Lemoine, *Nicotiana glutinosa* L., *N. langsdorffii* Schrank, *N. paniculata* L., *N. quadrivalvis* Pursh, *N. rustica* L., *Petunia violacea* Lindl. [*P. integrifolia* (Hooker) Schinz & Thellung], *P. nyctaginiflora* Jussieu, *Physalis ixocarpa* Hornem., *P. subglabrata* Mackenzie & Bush [*P. longifolia* var. *subglabrata* (Mackenzie & Bush) Cronq.], *Physoclaina orientalis* (Bieb.) G. Don fil., *Salpiglossis*, *Schizanthus pinnatus* Ruiz & Pav., *S. wisetonensis* Hort., *Solanum abancayense* Ochoa, *S. acaule* Bitt., *S. acroglossum* Juz., *S. acroscopicum* Ochoa, *S. ciliatum* Lam. [*S. aculeatissimum* Jacq.], *S. agrimoniifolium* Rydberg, *S. ajuscoense* Buk. ex Rybin, *S. alandiae* Cárdenas, *S. alatum* Dunal, *S. albicans* (Ochoa) Ochoa, *S. ambosinum* Ochoa, *S. andigena* Juz. & Buk., *S. andreanum* Baker, *S. antipoviczii* Buk. ex Rybin, *S. atropurpureum* Schrank, *S. avilesii* Hawkes & Hjerting, *S. balbisii* Dunal, *S. barbisetum* Nees, *S. berthaultii* Hawkes, *S. blanco-galdosii* Ochoa, *S. boliviense* Dunal, *S. bonariense* L., *S. brachistotrichum* (Bitt.) Rydb., *S. brachycarpum* Corr., *S. brevicale* Bitter, *S. brevidens* Phil., *S. bukasovii* Juz., *S. bulbocastanum* Dunal, *S. canasense* Hawkes, *S. candolleanum* Berth., *S. capsicibaccatum* Cardot, *S. cariense* A. Chevalier, *S. cervantesii* Lag., *S. chacoense* Bitter, *S. chancayense* Ochoa, *S. chiquidenum* Ochoa, *S. chomatophilum* Bitt., *S. circaeifolium* Bitter, *S. citrullifolium* A. Braun, *S. clarum* Corr., *S. colombianum* Dunal, *S. commersonii* Dunal, *S. curtibolum* Juz. & Buk., *S. davisense* Whalen, *S. demissum* Lindl., *S. capsicastrum* Link ex Schauer [*S. diflorum* Vell.], *S. doddsii* Corr., *S. edinense* Berthault, *S. etuberosum* Lindl., *S. fendleri* A. Gray, *S. fernandezianum* Phil., *S. gandarillasii* Cárd., *S. gilo* Raddi, *S. gourlayi* Hawkes, *S. grayi* Rose, *S. guerreroense* Corr., *S. guineense* L., *S. hendersonii* W. Wright, *S. heterodoxum* Dun., *S. hjertingii* Hawkes, *S. hondelmannii* Hawkes & Hjerting, *S. hougassii* Corr., *S. huancabambense* Ochoa, *S. immite* Dun., *S. incamayoense* Okada, *S. infundibuliforme* Phil., *S. iopetalum* (Bitt.) Hawkes, *S. jalcae* Ochoa, *S. jamesii* J. Torr., *S. johnstonii* Whalen, *S. kurtzianum* Bitter & Wittm., *S. lanceolatum* Cav., *S. laxissimum* Bitter, *S. leptophyes* Bitt., *S. lesteri* Hawkes & Hjerting, *S. lignicaule* Vargas, *S. longiconicum* Bitt., *S. lumholtzianum* Bartlett, *S. lycopersicoides* Dun., *S. macrocarpon* L., *S. mammosum* L., *S. marinasense* Vargas, *S. auriculatum* Aiton [*S. mauritanium* Scop.], *S. medians* Bitt., *S. megistacrolobum* Bitt., *S. microdontum* Bitt., *S. mochiquense* Ochoa, *S. morelliforme* Bitt. & Muench, *S. moscopanum* Hawkes, *S. multidissectum* Hawkes, *S. multi-interruptum* Bitt., *S. neoantipoviczii* Buk., *S. neocardenasii* Hawkes & Hjerting, *S. neorossii* Hawkes & Hjerting, *S. nitidibaccatum* Bitter, *S. oblongum* Ruiz & Pav., *S. ochraceo-ferrugineum* (Dun.) Fern., *S. ochranthum* Dunal, *S. okadae* Hawkes & Hjerting, *S. oplocense* Hawkes, *S. oxycarpum* Schiede, *S. pampasense* A. D. Hawkes, “*Solanum pandelarium*,” *S. papita* Rydb., *S. pascoense* Ochoa, *S. paucijugum* Bitter, *S. paucisectum* Ochoa, *S. pennellii* Correll, *S. phureja* Juz. & Buk., *S. pinatisectum* Dunal, *S. piurae* Bitt., *S. polyadenium* Greenman, *S. polytrichon* Rydb., *S. pseudocapsicum* L., *S. pyracanthum* Jacq., *S. quitoense* Lam., *S. radicans* L. f., *S. raphanifolium* Cárd. & Hawkes, *S. reddickii* Buk., *S. sanctae-rosae* Hawkes, *S. santolallae* Vargas, *S. scabrifolium* Ochoa, *S. schenckii* Bitt., *S. simplicifolium* Bitter, *S. sitiens* Johnston, *S. sogarandinum* Ochoa, *S. sparsipilum* (Bitter) Vavilov, *S. spegazzinii* Bitt., *S. stenotomum* Juz. & Buk., *S. stoloniferum* Schltd., *S. stramonifolium* Dunal, *S. sucrense* Hawkes, *S. sandemanii* Hawkes [*S. tacnaense* var. *sandemanii* (Hawkes) Correll], *S. tarijense* Hawkes, *S. tomatillo* (Remy) Philippi f., *S. toralapanum* Cárd. & Hawkes, *S. torvum* Sw., *S. trifidum* Correll, *S. tuquerrense* Hawkes, *S. vallis-mexici* Juz., *S. vernei* Bitter & Wittm., *S. verrucosum* Schlechtd., *S. violaceimarmoratum* Bitter, and *S. wittmackii* Bitt. (Brues, 1940; Cañas Castro, 2000; Cantelo *et al.*, 1987; Cappaert, 1988; Carter, 1987; Casagrande, 1982, 1987; Chin, 1950; Costa & Gaugler, 1989; De Wilde, 1958; De Wilde *et al.*, 1960; Dimock & Tingey, 1985, 1987, 1988; Dimock *et al.*, 1986; Flanders & Radcliffe, 1992; Flanders *et al.*, 1992, 1997, 1998; França *et al.*, 1994; Gibson, 1976; Groden & Casagrande, 1986; Hare, 1983, 1990; Harrison & Mitchell, 1988; Hsiao, 1974, 1982, 1986, 1988; Hsiao & Fraenkel, 1968b; Jermy, 1961, 1994; Kennedy & Sorenson, 1985; Kennedy *et al.*, 1985; Kowalski *et al.*, 2000; Kroiss *et al.*, 2002; Lu *et al.*, 1997; Melville *et al.*, 1985; Mena-Covarrubias *et al.*, 1996; Neal *et al.*, 1989; Pelletier, 1990; Pelletier & Smilowitz, 1991a, 1991b; Pelletier *et al.*, 1999;

Ruberson *et al.*, 1989; Sikinyi *et al.*, 1997; Sinden *et al.*, 1980, 1986; Swiniarski *et al.*, 1958; Szentesi & Jermy, 1993; Tower, 1918; Trouvelot & Grison, 1935; Trouvelot *et al.*, 1933; Weber & Ferro, 1996; Wegorek, 1959; Wright *et al.*, 1985; Yencho & Tingey, 1994). However, some of these plants were very poor hosts when compared to *S. tuberosum*. Also in experimental tests, *L. decemlineata* has nibbled slightly on a hybrid derived from *Solanum violaceimarmoratum* and *S. yungasense* Hawkes (Flanders & Radcliffe, 1992).

This beetle species has also been reported in association with non-solanaceous plants: *Amaranthus retroflexus* L. (Amaranthaceae); *Asclepias syriaca* L. (Asclepiadaceae); *Achillea*, *Carduus nutans* L., *Cirsium arvense* (L.) Scop., *C. lanceolatum* (L.) Scop., *non* Hill. [*C. vulgare* (Savi) Tenn.], dahlia [*Dahlia*], *Eupatorium perfoliatum* L., *Galinsoga*, *Helianthus annuus* L., *Lactuca* (Asteraceae); *Brassica oleracea* L., *Sisymbrium officinale* (L.) Scop. (Brassicaceae); beet [*Beta vulgaris* L.], *Chenopodium album* L., *C. hybridum* auct. *non* L. [*C. simplex* (Torr.) Raf.] (Chenopodiaceae); bindweed [likely *Calystegia*, *Convolvulus*, or *Ipomoea*] (Convolvulaceae); *Cornus stolonifera* Michx. [*C. sericea* L.] (Cornaceae); watermelon [*Citrullus lanatus* (Thunb.) Matsum. & Nakai], garden cucumber [*Cucumis sativus* L.] (Cucurbitaceae); soybean [*Glycine max* (L.) Merr.], bean [likely *Phaseolus vulgaris* L.] (Fabaceae); *Ribes vulgare* Lam. [*R. rubrum* L.] (Grossulariaceae); salvia [*Salvia*] (Lamiaceae); *Allium* (Liliaceae); *Abutilon americanum* Panz. (Malvaceae); *Piper nigrum* L. (Piperaceae); *Avena sativa* L., brome grass [*Bromus*], *Zea mays* L. (Poaceae); *Polygonum convolvulus* L., *P. hydropiper* L. (Polygonaceae); raspberry [*Rubus*] (Rosaceae); *Verbascum* (Scrophulariaceae); and nettle [likely *Urtica*] (Urticaceae) (Anaya-Rosales *et al.*, 1987; Anonymous, 1961o, 1968k, 1969j, 1970g, 1975a; Batra *et al.*, 1981; Beirne, 1971; Beutenmüller, 1890a; Bruner, 1891b; Carr, 1988; Chittenden, 1907a; Deitz *et al.*, 1976; Everly, 1938; Gibson *et al.*, 1925; Hatch & Ortenburger, 1930; Hilgendorf & Goeden, 1981; Hofmaster, 1962; Horning & Barr, 1970; Hsiao & Fraenkel, 1968b; Humphrey, 1973; Jermy, 1961; Jolivet, 1991b; MacGregor & Gutiérrez, 1983; Mena-Covarrubias *et al.*, 1996; Metcalf & Metcalf, 1993; Morihara & Balsbaugh, 1976; Norris & Kogan, 2000; Parshall, 1968; Peterson, 1960; Pitts, 1965a; Riley, 1869a, 1874a, 1884; Smith, 1938; Whelan, 1936). However, such plants are certainly not preferred food, and at least some of these reports were based on early-season observations made when solanaceous hosts were not yet available. Some of the occurrences were probably purely incidental, or they were based on misidentification.

In experimental tests, *L. decemlineata* has fed on numerous plants, including *Ampelamus albidus* (Nutt.) N. L. Britt., *Asclepias speciosa* J. Torr., *A. syriaca*, *A. tuberosa* L. (Asclepiadaceae); *Cichorium intybus* L., *Cirsium vulgare*, *Eupatorium rugosum* Houtt., *Galinsoga parviflora* Cav., *Lactuca sativa* L., *L. scariola* L. [*L. serriola* L.], *Sonchus oleraceus* L. (Asteraceae); *Brassica oleracea*, *Capsella bursa-pastoris* (L.) Medik., *Raphanus sativus* L., *Thlaspi arvense* L. (Brassicaceae); *Pisum sativum* L. (Fabaceae); *Allium cepa* L. (Liliaceae); *Morus alba* L. (Moraceae); *Nolana prostrata* L. f. [*N. humifusa* (Gouan) I. M. Johnst. (Nolanaceae); *Phytolacca americana* L. (Phytolaccaceae); and *Verbascum thapsus* L. (Scrophulariaceae) (Bongers, 1970; Chin, 1950; Hsiao, 1974, 1989; Hsiao & Fraenkel, 1968a, 1968b; Jermy, 1961, 1994; Jolivet, 1991b; Jolivet & Hawkeswood, 1995; Jolivet & Petitpierre, 1976b, 1980; Jolivet & Verma, 2002; Olckers & Zimmermann, 1991; Pelletier & Smilowitz, 1991b). However, the insects do not normally utilize such non-solanaceous plants in nature.

Oddly, even nematophagy has been reported for *L. decemlineata*. This was apparently in a situation in which potatoes [*Solanum tuberosum*] were rich in saprophagous nematodes (Mafra-Neto & Jolivet, 1996).

***Leptinotarsa defecta* (Stål).** This species, including populations in Mexico, has been associated with *Solanum dimidiatum* Raf., *S. elaeagnifolium* Cav., *S. rostratum* Dunal, and *S. tridynamum* Dunal (Solanaceae) (Burke, 1963; Cañas Castro, 2000; Cuda *et al.*, 2002; Goeden, 1971a; Hsiao, 1974, 1986, 1988, 1989; Hsiao & Hsiao, 1983; Jacques, 1988; Jolivet, 1991b, 2001; Jolivet & Verma, 2002; Julien & Griffiths, 1998; Olckers & Hulley, 1994; Olckers & Zimmermann, 1991; Olckers *et al.*, 1995; Townsend, 1902; Wapshere, 1988). Additionally, Jacques (1988) reported specimens labeled from *S. melongena* L. and *S. tuberosum* L., but he also indicated that this beetle species would almost surely not feed on these plants. Apparently, *S. elaeagnifolium* is the normal host.

Beyond the natural associations reported above, *L. defecta* has fed, under experimental conditions, on *Solanum carolinense* L., *S. coccineum* Jacq., *S. dulcamara* L., *S. giftbergense* Dun., *S. hispidum* Pers., *S. incanum* L., *S. linnaeanum* Hepper & Jaeger, *S. melongena*, *S. panduriforme* E. Meyer ex Dunal, and *S. rigescens* Jacq. (Hsiao, 1974, 1986; Olckers & Hulley, 1994; Olckers & Zimmermann, 1991; Olckers *et al.*, 1995; Wapshere, 1988). However, development on some of these plants was very poor.

***Leptinotarsa haldemani* (Rogers).** Hosts are Solanaceae, including *Lycium andersonii* A. Gray, *Lycopersicon esculentum* Mill., *Physalis acutifolia* (Miers) Sandwith, "*Physalis douglasii*," *P. pubescens* L., *P. viscosa* L., *Solanum nigrum* L. [a North American record, therefore probably *S. americanum* P. Mill.], *S. angustifolium* Mill., *S. deflexum* Greenm., *S. douglasii* Dun., *S. nodiflorum* Jacq., and *S. tuberosum* L. (Cañas Castro, 2000; Cappaert, 1988; Hsiao, 1974, 1986, 1988, 1989; Hsiao & Hsiao, 1983; Jacques, 1988; Jolivet, 1991b; Jolivet & Verma, 2002; Leech & Green, 1955; Sperling & Mitchell, 1991). Beyond this, Hunter *et al.* (1912) reported this beetle species from under *Opuntia* (Cactaceae), but this is almost certainly not a food plant.

Under experimental conditions, *L. haldemani* has fed on some of the plants mentioned above, as well as on *Asclepias speciosa* J. Torr. (Asclepiadaceae); Asteraceae (genus not specified); *Datura*, *Hyoscyamus niger* L., *Lycium halimifolium* P. Mill. [*L. barbarum* L.], *Solanum dulcamara* L., *S. rostratum* Dunal, *S. sarrachoides* Sendt., and *S. villosum* Mill. (Solanaceae) (Hsiao, 1974, 1986, 1988, 1989; Jermy, 1994; Timmermans *et al.*, 1992). However, development on some of these plants was extremely poor.

***Leptinotarsa juncta* (Germar).** This species normally feeds on *Solanum carolinense* L. (Solanaceae) (Arnett, 1985; Arnett & Jacques, 1981; Bailey & Kok, 1978; Balsbaugh & Hays, 1972; Beutenmüller, 1890a; Blatchley, 1910; Boiteau, 1998; Bongers, 1970; Cañas Castro, 2000; Chittenden, 1924c; Clark, 2000; Coquillett, 1883; Downie & Arnett, 1996; Hsiao, 1974, 1985, 1986, 1988, 1989; Hsiao & Hsiao, 1983; Jacques, 1985, 1988; Jolivet, 1991b; Jolivet & Verma, 2002; Löding, 1945; McCauley, 1992; Neck, 1983; Packard, 1877; Riley, 1869a, 1882; Tower, 1906, 1918; Walsh & Riley, 1868a; Wilcox, 1954, 1979). However, it has also been associated with *Physalis*, *Solanum dulcamara* L., *S. melongena* L., and *S. tuberosum* L. (all Solanaceae) (Blatchley, 1910; Boiteau, 1998; Clark, 2000; Downie & Arnett, 1996; Dury, 1902; Hsiao, 1974, 1986, 1988; Kirk, 1970; McQueen, 1967b; Riley, 1869a, 1882, 1883; Seibels, 1962a, 1962b; Tower, 1918; Walsh & Riley, 1868a).

Kirk (1970) recorded this beetle species from nettle. This was probably in reference to horse-nettle [*Solanum carolinense*] rather than true nettle [*Urtica*] (Urticaceae). Packard (1877, 1888) stated that *L. juncta* feeds on wild potato. This was probably in reference to some species of *Solanum* rather than to *Ipomoea pandurata* (L.) G. F. W. Mey. (Convolvulaceae), a plant that is sometimes called wild potato.

Under experimental conditions, *L. juncta* has fed on the solanaceous plants *Hyoscyamus niger* L., *Lycopersicon esculentum* Mill., and *Solanum rostratum* Dunal (Hsiao, 1974, 1986; Tower, 1918). However, development on these plants was comparatively poor.

Walsh (1865) reported that the host is probably hickory [*Carya*] (Juglandaceae) and that feeding does not occur upon *Solanum* (Solanaceae). His statement was clearly in error.

***Leptinotarsa lineolata* (Stål).** This species, both larvae and adults, normally feeds on *Hymenoclea monogyra* J. Torr. & Gray ex A. Gray (Asteraceae) (Brisley, 1925; Hsiao, 1988, 1989; Hsiao & Hsiao, 1983; Jacques, 1988; Jolivet, 1991b; Jolivet & Verma, 2002; Timmermans *et al.*, 1992). In previously unpublished field work, we have found *L. lineolata* abundantly also in association with *H. salsola* J. Torr. & A. Gray. Records maintained by the USDA-ARS Grassland, Soil and Water Research Laboratory state that an adult has been collected in Chihuahua, Mexico by sweeping foliage of *Baccharis salicifolia* (Ruíz & Pav.) Pers. (Asteraceae) (Thomas O. Robbins, pers. comm.).

Beyond Asteraceae, Brisley (1925) reported an instance in which larvae and adults were found on tomato [*Lycopersicon esculentum* Mill.] and potato [*Solanum tuberosum* L.] (Solanaceae). However, he noted that this was after foliage of nearby *Hymenoclea* had been nearly devoured and the insects had migrated from their preferred host. Additionally, Domínguez & Carrillo (1976) recorded *L. lineolata* from “frijol” [likely *Phaseolus vulgaris* L.], *Cassia acutifolia* Delile [*Senna alexandrina* Mill.] (Fabaceae); “algodón” [*Gossypium*] (Malvaceae); *Argemone* (Papaveraceae); and “papa” [*Solanum tuberosum*] (Solanaceae). Even so, these are probably not normal hosts.

***Leptinotarsa peninsularis* (Horn).** This species normally feeds on *Kallstroemia grandiflora* J. Torr. ex A. Gray (Zygophyllaceae) (Hsiao, 1988, 1989; Hsiao & Hsiao, 1983; Jacques, 1988; Jolivet, 1991b; Jolivet & Verma, 2002). It also feeds on the introduced plant *Tribulus terrestris* L. (Zygophyllaceae), at least under laboratory conditions (Hsiao, 1988, 1989).

***Leptinotarsa rubiginosa* (Rogers).** Hosts are Solanaceae, this species having been reported from *Physalis wrightii* A. Gray [*P. acutifolia* (Miers) Sandwith], *P. pubescens* L., *Solanum deflexum* Greenm., *S. douglasii* Dun., and *S. dulcamara* L. (Cañas Castro, 2000; Hsiao, 1974, 1986, 1988, 1989; Jacques, 1988; Jolivet, 1991b; Jolivet & Verma, 2002). Hsiao & Hsiao (1983) and Jacques (1988) reported this beetle species from “*Solanum pubescens*.” However, this was probably an error, *Physalis pubescens* being intended.

Under experimental conditions, *L. rubiginosa* has also fed on the solanaceous plants *Hyoscyamus niger* L., *Lycopersicon esculentum* Mill., *Solanum sarrachoides* Sendt., and *S. tuberosum* L., as well as on *Asclepias speciosa* J. Torr. (Asclepiadaceae) (Hsiao, 1974, 1986; Jermy, 1994). However, development on some of these plants was comparatively poor.

Arnett & Jacques (1981) stated that *L. rubiginosa* “feeds on Indian arrow, a member of the plant family Compositae.” Most likely, this report was in error, any occurrences on asteraceous plants being incidental.

***Leptinotarsa texana* Schaeffer.** This species normally feeds on *Solanum elaeagnifolium* Cav. (Solanaceae) (Cañas Castro, 2000; Cuda *et al.*, 2002; Hsiao, 1974, 1986, 1988, 1989; Hsiao & Hsiao, 1983; Jacques, 1988; Jolivet, 1991b, 2001; Jolivet & Verma, 2002; Julien & Griffiths, 1998; Neck, 1983; Olckers & Hulley, 1994; Olckers & Zimmermann, 1991; Olckers *et al.*, 1995; Sperling & Mitchell, 1991; Timmermans *et al.*, 1992; Tower, 1918; Wapshere, 1988). It has also been recorded from *S. carolinense* L., *S. dimidiatum* Raf., and

Leaf Beetles and Associated Plants

S. rostratum Dunal (Hsiao, 1974, 1986, 1988; Neck, 1983; Tower, 1918; Wapshere, 1988).

Under experimental conditions, *L. texana* has fed on *Solanum acanthoideum* E. Mey., *S. carolinense*, *S. coccineum* Jacq., *S. donianum* Walpers, *S. dulcamara* L., *S. giganteum* Jacq., *S. giftbergense* Dun., *S. incanum* L., *S. linnaeanum* Hepper & Jaeger, *S. lumholtzianum* Bartlett, *S. mauritanium* Scop., *S. melongena* L., *S. panduriforme* E. Meyer ex Dunal, *S. rigescens* Jacq., *S. rostratum*, *S. torvum* Sw., and *S. tuberosum* L. (Cuda *et al.*, 2002; Hsiao, 1974, 1986; Jacques, 1988; Olckers & Hulley, 1994; Olckers & Zimmermann, 1991; Olckers *et al.*, 1995; Sperling & Mitchell, 1991; Wapshere, 1988). However, development on some of these plants was very poor.

***Leptinotarsa tlascalana* Stål.** This species normally feeds on *Kallstroemia rosei* Rydb. (Zygophyllaceae) (Cappaert, 1988; Hsiao, 1988, 1989; Jacques, 1988; Jolivet, 1991b; Jolivet & Verma, 2002). However, it also feeds on the introduced plant *Tribulus terrestris* L. (Zygophyllaceae), at least under laboratory conditions (Hsiao, 1988, 1989).

In Latin America, this beetle species has also been reported from *Phaseolus* (Fabaceae); *Gossypium* (Malvaceae); “arroz” [*Oryza sativa* L.] and *Zea* (Poaceae) (Domínguez & Carrillo, 1976; Maes & Staines, 1991). Even so, these occurrences were likely incidental.

***Leptinotarsa tumamoca* Tower.** The normal host is reported to be *Physalis acutifolia* (Miers) Sandwith (Solanaceae) (Hsiao, 1974, 1986, 1988, 1989; Hsiao & Hsiao, 1983; Jacques, 1988; Jermy, 1994; Jolivet, 1991b; Jolivet & Verma, 2002). However, this beetle species, including larvae, has also been found feeding on *Kallstroemia grandiflora* J. Torr. ex A. Gray (Zygophyllaceae) (Hsiao, 1989; Jolivet, 1991b). In previously unpublished field work in southern Arizona, we have collected a large series, including both larvae and adults, from *Gutierrezia* (Asteraceae). Cañas Castro (2000), citing Hsiao (1986), indicated that *Solanum* (Solanaceae) is the preferred host; however, this was in error.

In laboratory tests, this beetle species has been reared on *Tribulus terrestris* L. (Zygophyllaceae) (Hsiao, 1989; Jolivet, 1991b). It has also accepted *Solanum dulcamara* L., but the growth and survival were marginal on this plant (Hsiao, 1986, 1989; Jolivet, 1991b).

***Leptinotarsa undecimlineata* (Stål).** This species has been reported in Latin America from *Solanum elaeagnifolium* Cav., “*Solanum hegerii*,” *S. lanceolatum* Cav., *S. melongena* L., *S. mitlense* Dunal, *S. ochraceo-ferrugineum* (Dun.) Fern., *S. diversifolium* Schltld. [*S. rudepannum* Dunal], *S. saponaceum* Dunal, *S. torvum* Sw., and *S. tuberosum* L. (Solanaceae) (Ballou, 1928; Beutenmüller, 1890a; Bruner *et al.*, 1975; Cañas Castro, 2000; Cappaert, 1988; Cuda *et al.*, 2002; Flowers & Janzen, 1997; Hsiao, 1986, 1988, 1989; Hsiao & Hsiao, 1983; Jacques, 1988; Jolivet, 1991b, 1994; Jolivet & Verma, 2002; King & Saunder, 1984; Knab, 1907; Maes & Staines, 1991; Passoa, 1983; Tower, 1906, 1918; Townsend, 1902; Weiser & Hostounsky, 1967).

***Lexiphanes affinis* (Haldeman).** This species has been recorded from *Rhus copallina* L. (Anacardiaceae); *Sambucus canadensis* L. (Caprifoliaceae); oak [*Quercus*] (Fagaceae); *Myrica* (Myricaceae); *Oenothera* (Onagraceae); cherry laurel [*Prunus laurocerasus* L.], wild cherry [*Prunus*], and wild plum [*Prunus*] (Rosaceae) (Balsbaugh, 1966; Balsbaugh & Hays, 1972; Clark, 2000; Downie & Arnett, 1996; Dozier, 1918, 1920; Furth, 1985; Kirk, 1970; Wilcox, 1979).

***Lexiphanes guerini* (Perbosc).** Balsbaugh (1966) saw Mexican material labeled “Anís” [*Pimpinella anisum* L.] (Apiaceae) and “Mais” [*Zea mays* L.] (Poaceae). McClay *et al.* (1995) reported this beetle species to be common in Mexico on *Parthenium hysterophorus* L. (Asteraceae).

***Lexiphanes mexicanus* (Jacoby).** Balsbaugh (1966) saw a Mexican specimen labeled “Mesquite-catcl.” [presumably *Prosopis*] (Fabaceae).

***Lexiphanes saponatus* (Fabricius).** This species, including larvae, has been associated with *Chamaedaphne calyculata* (L.) Moench (Ericaceae) (LeSage, 1984b; Olmstead, 1994; Riley *et al.*, 2002). Adults are apparently somewhat polyphagous, having been recorded from sumac [*Rhus*] (Anacardiaceae); *Daucus carota* L. (Apiaceae); *Apocynum androsaemifolium* L. (Apocynaceae); *Asclepias* (Asclepiadaceae); *Eupatorium purpureum* L., *Solidago*, *Vernonia* (Asteraceae); *Alnus rugosa* (Du Roi) Spreng. [*A. incana* ssp. *rugosa* (Du Roi) Clausen] (Betulaceae); *Sambucus canadensis* L. (Caprifoliaceae); *Euonymus atropurpureus* Jacq. (Celastraceae); *Hypericum* (Clusiaceae); sedge [Cyperaceae]; *Desmodium*, soybean [*Glycine max* (L.) Merr.], *Melilotus* (Fabaceae); oak [*Quercus*] (Fagaceae); *Rosmarinus officinalis* L. (Lamiaceae); cotton [*Gossypium*] (Malvaceae); *Myrica cerifera* L. (Myricaceae); *Oenothera* (Onagraceae); *Polygonum hydropiperoides* Michx. (Polygonaceae); cherry-laurel [*Prunus laurocerasus* L.], cherry [*Prunus*], wild plum [*Prunus*] (Rosaceae); *Cephalanthus occidentalis* L. (Rubiaceae); *Salix candida* Fluegge ex Willd. (Salicaceae); *Veronica* (Scrophulariaceae); and elm [*Ulmus*] (Ulmaceae) (Balsbaugh, 1966; Balsbaugh & Hays, 1972; Blatchley, 1910, 1924a; Felt, 1907; Folsom, 1936b; Harrington, 1883; Jolivet, 1982; Lago & Mann, 1987; LeSage, 1984b; Lovell, 1915; Riley & Enns, 1979; Riley *et al.*, 2002; Rouse & Medvedev, 1972; Weiss & West, 1922; Wilcox, 1979).

Beyond the plants mentioned above, Balsbaugh (1966, 1967) reported material collected by sweeping

Apocynum cannabinum L. (Apocynaceae) and *Melilotus* (Fabaceae). Similarly, Johnson (1916) reported material swept from marshy meadow grass [Poaceae]. However, sweeping records, without supporting evidence, should not be interpreted as host associations.

***Lexiphanes seminulum* (Suffrian).** This species has been reported from *Sambucus canadensis* L. (Caprifoliaceae), oak [*Quercus*] (Fagaceae), *Sassafras albidum* (Nutt.) Nees (Lauraceae), and *Oenothera* (Onagraceae) (Balsbaugh, 1966; Balsbaugh & Hays, 1972). Additionally, in his biology section, Balsbaugh (1966) listed material labeled “in yellow pine area” [*Pinus echinata* P. Mill.] (Pinaceae), but this can hardly be interpreted as a host record.

***Liliocercis lili* (Scopoli).** This species, including Palearctic populations, has been reported in association with *Cirsium*, *Dahlia*, *Helianthus*, *Xeranthemum*, zinnia [*Zinnia*] (Asteraceae); *Begonia* (Begoniaceae); *Campanula* (Campanulaceae); *Allium*, *Asparagus*, *Convallaria majalis* L., *Fritillaria imperialis* L., *F. meleagris* L., *Hosta ventricosa* (Salisb.) Stearn, *Lilium auratum* L., *L. candidum* L., *L. formosanum* Wallace, *L. giganteum* Wallich, *L. hansonii* Leicht ex Baker, *L. henryi* Baker, *L. lancifolium* Thunb., Easter lily [*L. longiflorum* Thunb.], *L. martagon* L., “lys rouge américain” [possibly *L. philadelphicum* L.], *L. philippinense* Baker, *L. regale* Wils., *L. speciosum* Thunb., *L. superbum* L., *L. testaceum* Lindl., various other horticultural lilies [*Lilium*], *Maianthemum canadense* Desf., *Nomocharis saluenensis* Balfour, *Polygonatum multiflorum* (L.) All., *P. vulgare* Desf. [*P. odoratum* (Mill.) Druce] (Liliaceae); hollyhock [*Alcea rosea* L.], *Hibiscus syriacus* L. (Malvaceae); *Chimonobambusa marmorea* Mokino (Poaceae); *Polygonum* (Polygonaceae); *Helleborus orientalis* Lam. (Ranunculaceae); rose [*Rosa*] (Rosaceae); *Smilax* (Smilacaceae); *Datura*, *Nicotiana*, *Solanum dulcamara* L., *S. laciniatum* Ait., *S. tuberosum* L. (Solanaceae); and *Viola* (Violaceae) (Anonymous, 1999b; Biondi, 1993; Brown, 1946; Casagrande, 1999; Goidanich, 1956; Jolivet & Hawkeswood, 1995; Jolivet & Verma, 2002; LeSage, 1983, 1992; Livingston, 1996; Lopatin, 1984; Mohr, 1966; Monró, 1959a; Müller & Hilker, 2003; Mummery & Valadon, 1974; Riley *et al.*, 2002; Schmitt, 1988; Steinhausen, 1996; Tempère, 1927; Vig, 1992b, 1996; White, 1993; Wilcox, 1979; Yu *et al.*, 2001).

However, only plants in the Liliaceae (especially *Lilium* and to a lesser extent *Fritillaria*) are normal hosts. According to Livingston (1996), reports of *L. lili* feeding on *Allium* are apparently based on misidentified beetles.

Beyond the natural associations mentioned above, *L. lili* has at least nibbled experimentally on *Narcissus* (Amaryllidaceae); *Crocus*, Dutch iris [*Iris xiphium* L.] (Iridaceae); *Hosta undulata* L. H. Bailey, *Muscari*, “*Polygonatum variegatum*,” and *Tulipa* (Liliaceae) (Livingston, 1996). Even so, oviposition or survival was very poor on some of these plants. In these same experiments, beetles were also observed on *Hyacinthus* (Liliaceae), but feeding was not mentioned.

***Longitarsus acutipennis* Blatchley.** This species has been associated with *Eupatorium perfoliatum* L. (Asteraceae) (Riley & Enns, 1979). It has also been swept from goldenrod [*Solidago*] (Asteraceae) (Blatchley, 1924b), but sweeping records should not necessarily be interpreted as host associations.

***Longitarsus alternatus* (Ziegler).** Blatchley (1910) stated that this species “occurs beneath clumps of prickly pear cactus” [*Opuntia*] (Cactaceae). However, later (Blatchley, 1921), he reported that this association was based on misidentified specimens of *Longitarsus arenaceus* Blatchley.

***Longitarsus arenaceus* Blatchley.** This species is reported to occur beneath *Opuntia humifusa* (Raf.) Raf. (Cactaceae) (Blatchley, 1921; Downie & Arnett, 1996; Wilcox, 1954).

***Longitarsus bicolor* Horn.** Records maintained by the USDA-ARS Grassland, Soil and Water Research Laboratory state that adults have been collected in Brewster County, Texas from foliage of *Senecio flaccidus* Less. (Asteraceae) (Thomas O. Robbins, pers. comm.).

***Longitarsus cotulus* Blatchley.** This species is associated with Asteraceae, including *Anthemis cotula* L. and *Eupatorium capillifolium* (Lam.) Small (Blatchley, 1914, 1924a; Flowers *et al.*, 1994; Peck & Thomas, 1998; Stirrett, 1924). It has also been reported from velvetbean [*Mucuna*] (Fabaceae), chinquapin [*Castanea*] (Fagaceae), and *Cephalanthus* (Rubiaceae) (Blatchley, 1924a), but, according to Flowers *et al.* (1994), these are not food plants.

***Longitarsus ferrugineus* (Foudras).** Hosts, including those for Palearctic populations, are species of *Mentha* (Lamiaceae), with specific reports from *M. aquatica* L., *M. arvensis* L., *M. gentilis* L., *M. longifolia* (L.) L., *M. nemorosa* Willd., *M. x piperita* L., *M. x rotundifolia* (L.) Huds., *M. spicata* L., and *M. candicans* Mill. [*M. sylvestris* L.] (Biondi, 1996; Döberl, 1994a; Doguet, 1994; Downie & Arnett, 1996; Gentner, 1925, 1926a, 1926b, 1928b, 1929; Hatch, 1971; Hutson, 1937; Kippenberg & Döberl, 1994; LeSage, 1988a; Mohr, 1966; Petitpierre, 1999; Sanderson & Peairs, 1931; Tomlin & Sharp, 1912; Wilcox, 1979). This beetle species has also been reported from *Calamintha* and *Satureja hortensis* L. (Lamiaceae) (Biondi, 1996; Doguet, 1994; Petitpierre, 1999).

***Longitarsus flavicornis* (Stephens).** This species, including Palearctic populations, is associated with Asteraceae, having been reported from *Eupatorium cannabinum* L., *Senecio aquaticus* Hill, and *S. jacobaea*

L. (Biondi, 1996; Doguet, 1994; Gassmann, 1995; Jolivet, 2001; Jolivet & Verma, 2002; Julien & Griffiths, 1998; Petitpierre, 1999; Petitpierre *et al.*, 2000; Shute, 1976; Windig, 1991; Windig & Vrieling, 1996). In Europe, it has also been swept from *Juniperus phoenicea* L. (Cupressaceae) (Petitpierre *et al.*, 2000), but this is almost certainly not a food plant.

***Longitarsus ganglbaueri* Heikertinger.** Hosts, including those of Palearctic populations, are species of *Senecio* (Asteraceae), beetles having been reported from *S. aquaticus* Hill, *S. erraticus* Bert., *S. inaequidens* DC., *S. jacobaea* L., *S. pseudoreus* Rydb., *S. sylvaticus* L., *S. triangularis* Hook., *S. viscosus* L., and *S. vulgaris* L. (Biondi, 1996; Campobasso *et al.*, 1999; Döberl, 1994a; Doguet, 1994; Kippenberg & Döberl, 1994; LeSage, 1988a; Mohr, 1966; Pemberton & Hoover, 1980; Petitpierre, 1999; Westcott *et al.*, 1985; Windig & Vrieling, 1996).

In Manitoba, a specimen was vacuumed from *Urtica gracilis* Ait. [*U. dioica* ssp. *gracilis* (Ait.) Seland.] (Urticaceae), but no feeding injury was observed (Westcott *et al.*, 1985). In the Old World, this beetle species has also been recorded from raspberry [*Rubus*] (Rosaceae) and *Salix alba* L. (Salicaceae) (Levesque & Levesque, 1998; Mölleken & Topp, 1997), but these plants are probably not normal hosts.

***Longitarsus insolens* Horn.** Dailey *et al.* (1978) included this species in a list of beetles collected from *Asclepias syriaca* L. (Asclepiadaceae).

***Longitarsus jacobaeae* (Waterhouse).** These insects, including Palearctic populations, feed on species of *Senecio* (Asteraceae), having been recorded from *S. aquaticus* Hill, *S. erraticus* Bert., *S. eruciformis* Remy, *S. erucifolius* L., *S. giganteus* Desf., *S. jacobaea* L., *S. sylvaticus* L., and *S. vulgaris* L. (Binns, 1975; Biondi, 1996; Cameron, 1935; Campobasso *et al.*, 1999; Cox, 1994; Doguet, 1994; Frick, 1970, 1971; Frick & Johnson, 1972, 1973; Gassmann, 1995; Hawkes & Johnson, 1976; Jolivet, 2001; Jolivet & Verma, 2002; Julien & Griffiths, 1998; Kippenberg & Döberl, 1994; LeSage, 1988a; Lopatin, 1984; McEvoy *et al.*, 1991; Mohr, 1966; Newton, 1933; Pemberton & Hoover, 1980; Pemberton & Turner, 1990; Riley *et al.*, 2002; Rogers, 1976; Shute, 1976; Syrett, 1985; Tomlin & Sharp, 1912; Vail *et al.*, 2001; Verdyck & De Bruyn, 1991; Vig, 1996; Vig & Rozner, 1996; Westcott *et al.*, 1985; White, 1996b; Windig, 1991, 1993; Windig & Vrieling, 1996; Zhang & McEvoy, 1995). Beyond this, Campobasso *et al.* (1999) reported “*Longitarsus jacobaeae* ? (Waterhouse)” from *Carduus nutans* L. (Asteraceae), but this occurrence may have been adventitious.

In various experiments, caged beetles have fed on several of the above-mentioned plants, plus *Adenostyles alpina* Bl. & Fing. [*A. viridis* Cass.], *Aster alpinus* L., *Emilia coccinea* (Sims) G. Don, *Erechtites arguta* DC., *E. hieracifolia* (L.) Raf. ex DC., *Chrysanthemum leucanthemum* L. [*Leucanthemum vulgare* Lam.], *Senecio adonidifolius* Lois., *S. crucifolius* L., *S. cruentus* (Masson & L’Her.) DC., *S. glaucophyllus* Cheeseman, *S. lagopus* Raoul, *S. nemorensis* L., *S. paludosus* L., *S. quadridentatus* Labill., *S. serra* Hook., *S. squallidus* L., *S. triangularis* Hook., *S. wairauensis* Belcher, *Synosma suaveolens* (L.) Britton (Asteraceae); and *Helianthemum* (Cistaceae) (Frick, 1970; Newton, 1933; Syrett, 1985; Verdyck & De Bruyn, 1991). However, for some of these plants, the amount of feeding, the survival, or the number of resulting eggs was much reduced in comparison to similar tests with *Senecio jacobaea*. Some of these plants were found to be unsuitable as larval hosts.

***Longitarsus luridus* (Scopoli).** This is apparently a polyphagous species, having been reported from *Pistacia lentiscus* L. (Anacardiaceae); *Centaurea scabiosa* L. (Asteraceae); “*Lithospermum ancusa*,” *L. purpureoaceruleum* L., *Pulmonaria officinalis* L., *Symphytum officinale* L. (Boraginaceae); *Cephalaria mauritanica* Pomel, *C. syriaca* (L.) Schrader ex Roem. & Schult., *Knautia purpurea* (Vill.) Borbás, *Scabiosa succisa* L., *Succisa praemorsa* (Gilib.) Asch., *S. pratensis* Moench (Dipsacaceae); bean [likely *Phaseolus vulgaris* L.] (Fabaceae); *Clinopodium vulgare* L., *Majorana syriaca* (L.) Rafin., *Mentha*, *Moluccella spinosa* L., *Origanum syriacum* L., *Prasium majus* L., *Salvia hierosolymitana* Boiss., *Satureja*, *Sideritis pullulans* Vent. (Lamiaceae); “*Plantago communis* L.,” *P. lanceolata* L., *P. major* L., *P. media* L. (Plantaginaceae); *Clematis vitalba* L., *Ranunculus lanuginosus* L., *R. muricatus* L., *R. polyanthemus* L., *R. repens* L. (Ranunculaceae); *Fragaria vesca* L., raspberry [*Rubus*] (Rosaceae); *Rhinanthus alectorolophus* (Scop.) Pollich, *R. major* Ehrh., *Veronica beccabunga* L. (Scrophulariaceae); and Urticaceae (genus not specified) (Biondi, 1990, 1996; Brown, 1967; Döberl, 1994a; Doguet, 1994; Furth, 1980; Hoebeke & Wheeler, 1983; Kippenberg & Döberl, 1994; LeSage, 1988a; Levesque & Levesque, 1998; Mohr, 1966; Petitpierre, 1999; Vig, 1992b). Levesque & Levesque (1998) speculated that *Plantago* (Plantaginaceae) and *Ranunculus acris* L. (Ranunculaceae) were principal hosts for the “*Longitarsus luridus* complex” in Canada.

***Longitarsus mancus* LeConte.** In previously unpublished field work, we have found this species to be common in California on *Amsinckia* and *Plagiobothrys* (Boraginaceae). Our collections were made in early spring (late February and March).

***Longitarsus melanurus* (Melsheimer).** This species feeds on Boraginaceae. It has been recorded from *Cynoglossum officinale* L., *Echium vulgare* L., *Hackelia virginiana* (L.) I. M. Johnston, and *Onosmodium molle* Michx. (Clark, 2000; Cox, 1996; Douglass, 1929; Furth, 1995; Popenoe, 1877; Williams, 1999, 2002).

In previously unpublished investigations, we have collected adults from *Myosotis macrosperma* Engelm. in east-central Texas.

Beyond Boraginaceae, *L. melanurus* has been reported from *Apium graveolens* L. (Apiaceae); *Cirsium arvense* (L.) Scop. (Asteraceae); *Barbarea vulgaris* R. Br., *Brassica oleracea* L. (Brassicaceae); and *Beta vulgaris* L. (Chenopodiaceae) (Forbes & Hart, 1900; Maw, 1976a; Root, 1973; Root & Tahvanainen, 1969; Stirrett, 1924). However, these are not normal hosts.

Kirk (1970) recorded "*Longitarsus* prob. *melanurus*" from rescue grass [*Bromus catharticus* Vahl.] (Poaceae), but this association was probably incidental. He also reported material swept from alfalfa [*Medicago sativa* L.] (Fabaceae), but this should not be interpreted as a host association.

***Longitarsus nigrocephalus* White.** The host of this species is *Veronica serpyllifolia* ssp. *humifusa* (Dicks.) Vahl. (Scrophulariaceae) (Westcott *et al.*, 1985).

***Longitarsus oregonensis* Horn.** Morrison *et al.* (1967) reported collecting this species by sweeping potato [*Solanum tuberosum* L.] (Solanaceae). However, they stated that the beetles "were of no importance to the potatoes." This plant species is probably not a host.

***Longitarsus pellucidus* (Foudras).** This species, including Old World populations, has been associated with *Calystegia sepium* (L.) R. Br., *C. silvatica* (Kit. in Schrab.) Griseb., *Convolvulus arvensis* L., *C. lineatus* L., *C. stachydifolius* Choisy, *C. tenuissimus* Sibth. & Sm., and *Ipomoea batatas* (L.) Lam. (Convolvulaceae) (Aslan *et al.*, 2003; Bastazo, 1985; Biondi, 1990, 1996; Cagán *et al.*, 2000; Campobasso *et al.*, 1999; Défago *et al.*, 2001; Döberl, 1994a; Doguet, 1994; Furth, 1980; Kippenberg & Döberl, 1994; LeSage, 1988a; Lopatin, 1984; Mohr, 1966; Mohyuddin, 1969a; Petitpierre, 1999; Tomlin & Sharp, 1912; Verdyck & De Bruyn, 1991).

It has also been reported from *Amaranthus caudatus* L., *A. retroflexus* L. (Amaranthaceae); *Inula* (Asteraceae); *Cucurbita* (Cucurbitaceae); *Trifolium* (Fabaceae); and *Mentha x rotundifolia* (L.) Huds. (Lamiaceae) (Aslan *et al.*, 2003; Biondi, 1996; Cagán *et al.*, 2000; LeSage, 1988a; Tomlin & Sharp, 1912; Verdyck & De Bruyn, 1991). However, these plants may not be normal hosts.

***Longitarsus perforatus* Horn.** This species has been recorded from tall dead grass [Poaceae] (Blatchley, 1924a). Even so, the insects probably do not feed on this plant.

***Longitarsus pratensis* (Panzer).** This species, including Old World populations, has been associated with *Plantago cynops* L., *P. lanceolata* L., *P. major* L., *P. maritima* L., *P. media* L., and *P. sempervirens* Crantz. (Plantaginaceae) (Bastazo *et al.*, 1993; Biondi, 1990, 1993, 1996; Biondi & De Nardis, 1998; Clark, 2000; Döberl, 1994a; Doguet, 1994; Furth, 1979a, 1980; Gruev, 1991; Jolivet, 2001; Kippenberg & Döberl, 1994; LeSage, 1988a; Lopatin, 1984; Mohr, 1966; Petitpierre, 1999; Tomlin & Sharp, 1912).

This beetle species has also been reported from *Senecio jacobaea* L. (Asteraceae); *Barbarea vulgaris* R. Br. (Brassicaceae); *Beta*, *Chenopodium* (Chenopodiaceae); *Helianthemum* (Cistaceae); *Ulex* (Fabaceae); *Ballota nigra* L. and *Thymus serpyllum* L. (Lamiaceae) (Biondi, 1996; Doguet, 1994; Gruev, 1991; LeSage, 1988a; Petitpierre, 1999; Tomlin & Sharp, 1912). However, these are probably not preferred food plants.

***Longitarsus pygmaeus* Horn.** This species has been recorded from tall dead grass [Poaceae] (Blatchley, 1924a), but the beetles probably do not feed on this plant.

***Longitarsus quadriguttatus* (Pontoppidan).** This species feeds on *Cynoglossum officinale* L. (Boraginaceae) (Biondi, 1996; Doguet, 1994; Jordan, 1997; Petitpierre, 1999; Schwarzländer, 2000). In Europe, it has also been reported in association with *Nonea pulla* (L.) DC. (Boraginaceae), but this plant is apparently not a usual host (Biondi, 1996; Doguet, 1994; Jordan, 1997; Mohr, 1966; Petitpierre, 1999; Schwarzländer, 2000).

Under experimental conditions, *L. quadriguttatus* has also fed, at least to some degree, on the boraginaceous plants *Amsinckia carinata* Nels. & Macbr., *A. tessellata* A. Gray, *Anchusa azurea* P. Mill., *A. officinalis* L., *Asperugo procumbens* L., *Borago officinalis* L., *Brunnera macrophylla* (Bieb.) I. M. Johnston, *Buglossoides arvensis* (L.) I. M. Johnston, *B. purpureo-caerulea* (L.) I. M. Johnston, *Cerinthe minor* L., *Cynoglossum cheirifolium* L., *C. columnae* Ten., *C. creticum* Mill., *C. germanicum* Jacq., *C. glochidiatum* Wall. ex Benth. in Royle, *C. grande* Dougl. ex Lehm., *C. hungaricum* Simonkai, *C. occidentale* A. Gray, *Echium italicum* L., *E. vulgare* L., *Heliotropium arborescens* L., *Lappula deflexa* (Wahlenb.) Garcke, *L. squarrosa* (Retz) Dumort., *Lithospermum officinale* L., *Myosotis sylvatica* Ehrh. ex Hoff., *Nonea lutea* (Desr.) DC., *N. pulla*, *Omphalodes linifolia* (L.) Moench, *O. verna* Moench, *Pentaglottis sempervirens* Tausch, *Pulmonaria officinalis* L., *Rindera umbellata* (Waldst. & Kit.) Bunge, *Symphytum grandiflorum* DC., *S. ibericum* Steven, and *S. officinale* L. (Jordan, 1997; Schwarzländer, 2000). However, these plants did not support development or survival as well as *Cynoglossum officinale*, and at least most of them are probably not significant hosts in nature.

***Longitarsus repandus* LeConte.** This species has been associated with *Senecio californicus* DC. and *S. longilobus* Benth. (Asteraceae) (Carr, 1988; Fall, 1901; Leech & Green, 1955).

***Longitarsus rubiginosus* (Foudras).** In the Eastern Hemisphere, this species has been reported from

Calystegia sepium (L.) R. Br., *C. silvestris* (Willd.) Roem. et Schutt. [*C. silvatica* (Kit. in Schrab.) Griseb.], *Convolvulus arvensis* L., “*C. lanceolata*,” *C. tricolor* L., *Ipomoea batatas* (L.) Lam. (Convolvulaceae); *Plantago media* L. (Plantaginaceae); *Asperula odorata* L., *Galium mollugo* L. (Rubiaceae); *Veronica anagallis* L. and *V. beccabunga* L. (Scrophulariaceae) (Biondi, 1990, 1996; Döberl, 1994a; Doguet, 1994; Jolivet & Petitpierre, 1973; Kippenberg & Döberl, 1994; LeSage, 1988a; Levesque & Levesque, 1998; Lopatin, 1984; Mohr, 1966; Mohyuddin, 1969a; Petitpierre, 1999; Tomlin & Sharp, 1912). It has also been reported from *Eupatorium cannabinum* L. (Asteraceae), but this may have been in error (Tomlin & Sharp, 1912).

In North America, this species has been swept from *Mentha arvensis* L. (Lamiaceae) in close proximity to *Calystegia sepium* (LeSage, 1988a). Likely, the host was *Calystegia* rather than *Mentha*.

***Longitarsus rufescens* Horn.** This species has been recorded from *Cyperus* (Cyperaceae) (Moore, 1937).

***Longitarsus solidaginis* Horn.** This species has been reported from *Solidago* (Asteraceae) and huckleberry [*Gaylussacia*] (Ericaceae) (Blatchley, 1924a; Horn, 1889). Beyond this, Blatchley (1924a) reported that it hibernates beneath pine bark [*Pinus*] (Pinaceae) and in Spanish moss [*Tillandsia usneoides* (L.) L.] (Bromeliaceae), but he did not suggest that either of these was a food plant.

***Longitarsus subrufus* LeConte.** This species has been associated with *Onosmodium molle* Michx. (Boraginaceae) (Blatchley, 1910; Craighead, 1923; Downie & Arnett, 1996; Duckett, 1920; Horn, 1889; Stirrett, 1924; Wilcox, 1954, 1979; Williams, 1999). Additionally, in previously unpublished investigations, we have collected adults from *O. helleri* Small in central Texas.

This beetle species has also been reported from *Trifolium pratense* L. (Fabaceae) (Niemczyk & Guyer, 1963). However, this occurrence was probably incidental.

***Longitarsus succineus* (Foudras).** In the Old World, this is apparently a polyphagous species, having been recorded from *Achillea ligustica* All., *A. millefolium* L., *A. odorata* L., *Ammobium alatum* R. Br., *Anthemis pedunculata* Desf., *Artemisia absinthium* L., *A. campestris* L., *A. herba-alba* Asso, *A. vulgaris* L., *Asteriscus maritimus* (L.) Less., *Cirsium arvense* (L.) Scop., *Dendranthema morifolium* (Ramat.) Tzvelev [*D. x grandiflorum* Kitam.], *D. indicum* (L.) Des Moul. (plant was uncertainly identified but thought to be *D. indicum*), *Eupatorium cannabinum* L., *Leucanthemum vulgare* Lam., *Matricaria*, *Santolina chamaecyparissus* L., *Senecio adonidifolius* Lois., *S. jacobaea* L., *Tanacetum vulgare* L., *Tussilago farfara* L. (Asteraceae); *Echium*, *Symphytum officinale* L., *S. palestinum* Boiss. (Boraginaceae); *Gypsophila struthium* L. (Caryophyllaceae); *Atriplex halimus* L., *Salsola vermiculata* L. (Chenopodiaceae); *Convolvulus althaeoides* L., *C. arvensis* L. (Convolvulaceae); *Juniperus phoenicea* L. (Cupressaceae); *Ephedra nebrodensis* Tineo ex Guss. (Ephedraceae); *Euphorbia cyparissias* L. (Euphorbiaceae); *Quercus coccifera* L. (Fagaceae); *Salvia nemorosa* L., *S. pratensis* L., *Thymus serpyllum* L. (Lamiaceae); *Plantago lanceolata* L., *P. major* L. (Plantaginaceae); and *Rhamnus lycioides* L. (Rhamnaceae) (Bastazo, 1985; Biondi, 1990, 1993, 1996; Brown, 1967; Doguet, 1994; Frick, 1970; Furth, 1980; LeSage, 1988a; Lopatin, 1984; Mohr, 1966; Newton, 1933; Petitpierre, 1999; Petitpierre *et al.*, 2000; Tomlin & Sharp, 1912; Verdyck & De Bruyn, 1991; Windig & Vrieling, 1996).

***Longitarsus suspectus* Blatchley.** This species has been recorded in association with *Verbena hastata* L. and *V. urticifolia* L. (Verbenaceae) (Clark, 2000; Gentner, 1928a; Riley & Enns, 1979). In previously unpublished investigations in both Louisiana and Texas, we have collected adults from *V. brasiliensis* Vell. We have also collected adults from *Phyla strigulosa* (Mart. & Gal.) Moldenke (Verbenaceae) in southern Texas.

***Longitarsus tenuicornis* Blatchley.** This species feeds on *Phyla nodiflora* (L.) Greene (Verbenaceae) (Flowers *et al.*, 1994; Peck & Thomas, 1998). It has also been reported from *Cakile edentula* (Bigel.) Hook. (Brassicaceae) (Blatchley, 1923, 1924a), but, according to Flowers *et al.* (1994), this occurrence was incidental.

***Longitarsus testaceus* (Melsheimer).** This species has been reported from *Cirsium*, *Echinacea purpurea* (L.) Moench, *Eupatorium serotinum* Michx., cocklebur [*Xanthium*] (Asteraceae); sugar beet [*Beta vulgaris* L.] (Chenopodiaceae); soybean [*Glycine max* (L.) Merr.], alfalfa [*Medicago sativa* L.], *Trifolium pratense* L. (Fabaceae); wheat [*Triticum*] (Poaceae); apple [*Malus sylvestris* P. Mill.] (Rosaceae); *Pedicularis canadensis* L. (Scrophulariaceae); and *Vitis rotundifolia* Michx. (Vitaceae) (Balsbaugh & Hays, 1972; Cleveland & Hamilton, 1959; Douglass, 1929; Hendrickson, 1928, 1930b; McGiffin & Neunzig, 1985; Niemczyk & Guyer, 1963; Riley & Enns, 1979; Rouse & Medvedev, 1972; Smith *et al.*, 1979; Stirrett, 1935; Wilcox, 1979). Also, Bray & Triplehorn (1953) included it in a list of insects associated with either *Quercus palustris* Muenchh. or *Q. rubra* L. (Fagaceae). Similarly, Webster (1881) included it in a list of chrysomelids observed on either *Salix discolor* Muhl. or *S. petiolaris* J. E. Sm. (Salicaceae). Smith *et al.* (1979) suspected that the previously recorded association with *Cirsium* was based on either bull thistle [*C. pumilum* (Nutt.) Spreng. or *C. vulgare* (Savi) Tenn.] or *C. undulatum* (Nutt.) Spreng. Beyond these records, “*Longitarsus* (?) *testaceus*” has been reported from *Carduus nutans* L. (Asteraceae) (Batra *et al.*, 1981; Morihara & Balsbaugh, 1976).

Blatchley (1928) reported collecting *L. testaceus* by sweeping Ericaceae (genus not specified). However, sweeping records, without further evidence, should not be interpreted as host associations. Earlier (Blatchley, 1910), he indicated that beetles hibernate beneath mullein leaves [*Verbascum*] (Scrophulariaceae),

but he did not suggest a host relationship with this plant. Moreover, this report may have been based on misidentified specimens of *Longitarsus suspectus* Blatchley (see Blatchley, 1921).

In previously unpublished investigations, we have found that species of *Eupatorium* are normal hosts of *L. testaceus*. At least most of the other associations reported above were probably based on incidental occurrences.

***Longitarsus turbatus* Horn.** Blatchley (1896) recorded this species from *Onosmodium carolinianum* DC. [*O. molle* Michx.] (Boraginaceae). In previously unpublished investigations in Missouri, we have collected several adults that were feeding on *Veronica peregrina* L. (Scrophulariaceae).

Additionally, Rouse & Medvedev (1972) reported this beetle species from oats [*Avena*] (Poaceae) and strawberry [*Fragaria*] (Rosaceae), Cleveland & Hamilton (1959) included "*Longitarsus* sp. prob. *hurbatus* [sic] Horn" in a list of insects associated with apple [*Malus sylvestris* P. Mill.] (Rosaceae), and Kirk (1970) recorded *L. turbatus* collected by sweeping pasture grass [Poaceae] (Kirk, 1970). These occurrences were probably adventitious.

***Longitarsus vanus* Horn.** In previously unpublished investigations, we have seen material labeled from California in association with *Senecio douglasii* DC. (Asteraceae).

***Longitarsus varicornis* Suffrian.** This species feeds on *Heliotropium* (Boraginaceae). In the United States, it has been associated with *H. indicum* L. (Balsbaugh & Hays, 1972; Blatchley, 1924a; Horn, 1889; Leng, 1918). In Latin America, it has been reported in association with *H. angiospermum* Murray, *H. arborescens* L., *H. humifusum* Kunth, and *H. indicum* (Bechyné, 1997a, 1997b; Bruner *et al.*, 1975; Jolivet, 1979a; Martorell, 1976; Virkki & Santiago-Blay, 1996; Wolcott, 1936, 1951). Beyond these records, Virkki & Santiago-Blay (1998) recorded Puerto Rican "*Longitarsus* near *varicornis*" from *H. angiospermum*.

In Latin America, *L. varicornis* has also been reported from *Psidium guajava* L. (Myrtaceae), *Citrus sinensis* (L.) Osbeck (Rutaceae), and *Lycopersicon esculentum* Mill. (Solanaceae) (Bechyné, 1997a, 1997b; Bruner *et al.*, 1975; Jolivet, 1979a; Martorell, 1976; Wolcott, 1936, 1951). Likewise in Latin America, Bechyné (1997a) listed *L. varicornis* from "borrajón" [likely *Simsia* (Asteraceae) or *Wigandia* (Hydrophyllaceae)]. Bechyné (1997b) listed a Venezuelan species of *Longitarsus*, thought to probably be *L. varicornis*, from *Gossypium hirsutum* L. (Malvaceae).

***Luperaltica nigripalpis* (LeConte).** This species has been reported from *Daucus carota* L. (Apiaceae); *Ambrosia*, sunflower [*Helianthus*], *Rudbeckia*, *Solidago rigida* L. (Asteraceae); *Cannabis sativa* L. (Cannabaceae); *Lespedeza* (Fabaceae); pine [*Pinus*] (Pinaceae); and *Andropogon furcatus* Muhl. ex Willd. [*A. gerardii* Vitman] (Poaceae) (Balsbaugh & Hays, 1972; Downie & Arnett, 1996; Hendrickson, 1931b; Kirk, 1970; Kirk & Balsbaugh, 1975; Lago & Mann, 1987; Lago & Stanford, 1989; Popenoe, 1878; Riley & Enns, 1979; Rouse & Medvedev, 1972; Wilcox, 1979). Some of these associations involved flowers rather than foliage.

In previously unpublished investigations, we have found adults feeding on *Solidago radula* Nutt. (Asteraceae) growing on igneous glades in Missouri. In Wisconsin, Andrew H. Williams (pers. comm.) has found this beetle species in flowers of *Helianthus occidentalis* Riddell (Asteraceae).

***Luperaltica semiflava* (Fall).** This species has been recorded from *Gutierrezia microcephala* (DC.) A. Gray (Asteraceae) (Van Pelt, 1990; Wilcox, 1953).

***Luperaltica senilis* (Say).** This species has been reported from *Ambrosia*, *Eupatorium ageratoides* L. f., *Rudbeckia triloba* L., *Actinomeris* [*Verbesina*] (Asteraceae); and *Hypericum* (Clusiaceae) (Balsbaugh & Hays, 1972; Blatchley, 1910, 1921; Clark, 2000; Downie & Arnett, 1996; Popenoe, 1878; Stirrett, 1924; Wilcox, 1953, 1979). Some of these associations involved flowers rather than foliage. In previously unpublished investigations in Wisconsin, Andrew H. Williams (pers. comm.) has found this beetle species among flowers of *Artemisia campestris* ssp. *caudata* (Michx.) Hall & Clements (Asteraceae).

***Luperosoma parallelum* (Horn).** This species has been associated with *Psoralea argophylla* Pursh and *Psoralidium tenuiflorum* (Pursh) Rydb. (Fabaceae) (Kirk & Balsbaugh, 1975; Riley & Enns, 1982). In previously unpublished investigations in northeastern Texas, we have again collected adults from *P. tenuiflorum*.

***Luperosoma schwarzi* (Horn).** This species has been collected from *Helianthus* (Asteraceae) (Blake, 1958; Wilcox, 1965).

***Luperosoma subulcatum* (Horn).** This species has been recorded from *Pectis papposa* W. H. Harv. & A. Gray (Asteraceae) (Fall & Cockerell, 1907). In previously unpublished field work in New Mexico, we have collected a series (ten adults) from flowers of *Apodanthera undulata* Gray (Cucurbitaceae).

***Lupraea discrepans* (Schaeffer).** In previously unpublished investigations, we have seen *L. discrepans* labeled from Arizona in association with *Quercus* (Fagaceae). We have also personally collected specimens by beating *Quercus* in southeastern Arizona.

***Lupraea picta* (Say).** Hosts are species of *Quercus* (Fagaceae), including *Q. alba* L. (Balsbaugh & Hays, 1972; Blatchley, 1924a; Clark, 2000; Downie & Arnett, 1996; Dozier, 1918, 1920; Kirk, 1969; Löding, 1945; Riley & Enns, 1979; Wilcox, 1979). In previously unpublished investigations, we have collected adults from *Q. grisea* Liebm. and *Q. mohriana* Buckl. ex Rydb. in western Texas. Also, we have identified adults

that were collected by Thomas O. Robbins from *Q. glaucooides* auct. non Mart. & Gal. [*Q. laceyi* Small] in central Texas.

This beetle species has also been collected from dogwood [*Cornus*] (Cornaceae) and *Carya* (Juglandaceae) (Felt, 1907; Hamilton, 1895; Kirk, 1969; Smith, 1900, 1910a; Stirrett, 1924), but these occurrences may have been incidental. Bickensstaff & Huggans (1962) included *L. picta* in a list of insects collected from soybean fields [*Glycine max* (L.) Merr.] (Fabaceae), but this should not necessary be interpreted as a host association.

***Lygistus streptophallus* Wilcox.** This species has been collected from *Bouteloua* and *Muhlenbergia emersleyi* Vasey (Poaceae) (Clark, 1987; Riley *et al.*, 2002; Thomas & Werner, 1981; Wilcox, 1965).

***Lysathia ludoviciana* (Fall).** This species, including larvae, feeds on *Myriophyllum aquaticum* (Vell.) Verdc. (Haloragaceae) and *Ludwigia peploides* (Kunth) Raven (Onagraceae) (Blake, 1964; Campbell & Clark, 1983; Habeck & Wilkerson, 1980; Jolivet, 2003; Riley *et al.*, 2002; Virkki & Santiago-Blay, 1995, 1998; Vogt *et al.*, 1979). At least adults have also been associated with crepe myrtle [*Lagerstroemia indica* L.] (Lythraceae) and *Oenothera* (Onagraceae) (Griffith, 1963; Riley *et al.*, 2002). West Indian beetles have been reported from *Ludwigia suffruticosa* Walt. [*L. octovalvis* (Jacq.) Raven] (Onagraceae), as well as from *Lagerstroemia indica* (Lythraceae) (Blake, 1937b; Takizawa, 2003; Wolcott, 1951). In experimental tests, *L. ludoviciana* has also fed on *Myriophyllum brasiliense* Camb. (Haloragaceae) (Vogt & Cordo, 1976).

Additionally, *L. ludoviciana* has been recorded from *Baccharis halimifolia* L. (Asteraceae) and kale [*Brassica*] (Brassicaceae) (Kirk, 1970; Palmer & Bennett, 1988). However, these occurrences were almost certainly incidental.

***Malacorhinus acaciae* (Schaeffer).** This species has been collected from *Acacia flexicaulis* Benth. [*Ebenopsis ebano* (Berl.) Barneby & Grimes] (Fabaceae) (Schaeffer, 1906; Wilcox, 1951, 1965).

***Malacorhinus knullorum* Wilcox.** In previously unpublished investigations, we have collected many adults in Arizona from *Salix* (Salicaceae). Additionally, we have identified Arizona specimens labeled from *S. taxifolia* H. B. K.

***Mantura chrysanthemi* (Koch).** Both in the United States and in Europe, this species has been associated with *Rumex acetosella* L. (Polygonaceae) (Anonymous, 1960u; Bastazo *et al.*, 1993; Brown, 1950; Clark, 2000; Dearborn & Donahue, 1993; Döberl, 1995; Doguet, 1994; Frost, 1924; Jolivet, 2001; Mohr, 1966; Petitpierre, 1999; Riley *et al.*, 2002). It has also been recorded from *R. acetosa* L. (Doguet, 1994; Petitpierre, 1999).

Carr (1988) also reported *M. chrysanthemi* from *R. acetosella*. However, this was likely based on populations of *Mantura floridana* Crotch, these two beetle species frequently having been considered conspecific.

Beyond this, *M. chrysanthemi* has been reported from white pine [*Pinus strobus* L.] (Pinaceae) (Dearborn & Donahue, 1993). Even so, this record was almost certainly based on an incidental occurrence.

***Mantura floridana* Crotch.** This species normally feeds on species of *Rumex* (Polygonaceae), including *R. acetosella* L., *R. altissimus* Wood, *R. crispus* L., *R. hymenosepalus* J. Torr., and *R. obtusifolius* L. (Balsbaugh & Hays, 1972; Beller & Hatch, 1932; Blatchley, 1923, 1924a; Brisley, 1925; Brown, 1950; Clark, 2000; Downie & Arnett, 1996; Essig, 1958; Lawson, 1991; Marcovitch, 1916; Riley & Enns, 1979; Riley *et al.*, 2002; Stirrett, 1924; Wilcox, 1954, 1979). It is also reported to occur, although rarely, on another polygonaceous plant, *Polygonum perfoliatum* L. (Wheeler & Mengel, 1984).

Carr (1988) reported *Mantura chrysanthemi* (Koch) from *R. acetosella*, but this was likely based on populations of *M. floridana*, these two beetle species frequently having been considered conspecific. In eastern North America, "*Hippuriphila modeeri*" has been reported mining the leaves of *Rumex crispus* and *R. obtusifolius* (Beller & Hatch, 1932). These associations were likely based on misidentifications of *M. floridana*.

Beyond its normal hosts, *M. floridana* is reported to feed on *Plantago* (Plantaginaceae) (Balsbaugh & Hays, 1972; Downie & Arnett, 1996; Wilcox, 1954, 1979). Additionally, this beetle species has been recorded from ragweed [*Ambrosia*] (Asteraceae) and *Tillandsia usneoides* (L.) L. (Bromeliaceae) (Cooper, 1930; Rosenfeld, 1911), but these associations were probably incidental. Also, beetles have been swept from pasture grass [Poaceae] (Kirk, 1970), but this should not be interpreted as a host association. Robertson (1929) reported a species of *Mantura* from flowers of *Chaerophyllum procumbens* (L.) Crantz (Apiaceae), and Beisler *et al.* (1977) reported a species of *Mantura* from *Cyperus esculentus* L. (Cyperaceae). The beetles were probably *M. floridana*, but these are not normal food plants. Howden & Vogt (1951) reported *M. floridana* from decaying wood of *Pinus virginiana* P. Mill. (Pinaceae), but they considered this to be a "chance hibernation."

***Margaridisa atriventris* (Melsheimer).** Hosts are wild and ornamental species of *Acalypha* (Euphorbiaceae), including *A. gracilens* Gray, *A. marginata* Spreng., *A. tricolor* Seem., *A. virginica* L., and *A. wilkesiana* Muell.-Arg. (Baldur, 1926; Balsbaugh & Hays, 1972; Chittenden, 1924b; Clark, 2000; Downie & Arnett, 1996; Flowers *et al.*, 1994; Gentner, 1926a; Peck & Thomas, 1998; Riley & Enns, 1979; Stirrett, 1924; Wil-

cox, 1954, 1979).

This beetle species has also been reported from fern [Pteridophyta]; *Podophyllum peltatum* L. (Berberidaceae); *Brassica* (Brassicaceae); Spanish moss [*Tillandsia usneoides* (L.) L.] (Bromeliaceae); *Beta vulgaris* L. (Chenopodiaceae); soybean [*Glycine max* (L.) Merr.], *Vicia* (Fabaceae); *Quercus palustris* Muenchh., *Q. rubra* L. (Fagaceae); broomsedge [*Andropogon virginicus* L.] (Poaceae); *Fagopyrum esculentum* Moench (Polygonaceae); apple [*Malus sylvestris* P. Mill.], peach [*Prunus persica* (L.) Batsch] (Rosaceae); and *Physalis* (Solanaceae) (Balsbaugh & Hays, 1972; Blatchley, 1910, 1924a; Bray & Triplehorn, 1953; M. W. Brown, 1993; Chittenden, 1924b; Downie & Arnett, 1996; Duckett, 1920; Forbes & Hart, 1900; Kirk, 1969, 1970; Rouse & Medvedev, 1972; Stirrett, 1924, 1935; Wilcox, 1979). However, Balduf (1926) and Flowers *et al.* (1994) discounted associations with *Brassica*, buckwheat [*Eriogonum*, *Fagopyrum*, or *Polygonum*], sugar beet [*Beta vulgaris*], and *Vicia*. In fact, all of the non-*Acalypha* associations were likely either incidental or based on misidentification.

***Megalostomis dimidiata* (Lacordaire).** This species has been associated with Fabaceae, including mimosa [*Albizia* or *Mimosa*] and mesquite [*Prosopis*] (Fabaceae) (Domínguez & Carrillo, 1976; Moldenke, 1970; Ward *et al.*, 1977). In previously unpublished investigations in southern Texas, we have collected many adults on a single occasion from *Acacia rigidula* Benth. (Fabaceae). However, the congregation of these beetles appeared to be a mating swarm, and the plant may not be a true host.

***Megalostomis pyropyga* (Lacordaire).** This species has been associated with Mimosaceae (Fabaceae) (Hespenheide, 1996; Moldenke, 1970). It has also been reported from Honduras in association with avocado [*Persea americana* Mill.] (Lauraceae) (Ebeling, 1959), but this is probably not a preferred host.

***Megalostomis subfasciata* (LeConte).** This species is associated with Fabaceae, having been reported from *Acacia greggii* A. Gray and *Mimosa biuncifera* Benth. (Brisley, 1925; Carr, 1988; Hespenheide, 1996; Moldenke, 1970). Additionally, Wickham (1898) recorded *M. subfasciata* from “chiefly among bear-grass” [*Xerophyllum tenax* (Pursh) Nutt.] (Liliaceae).

***Megascelis texana* Linell.** This species has been associated with *Leucaena pulverulenta* (Schlecht.) Benth. (Fabaceae) (Riley *et al.*, 2002). Additionally, Rouse & Medvedev (1972) reported a specimen collected from Asteraceae (genus not specified) in Arkansas, but this was almost certainly based on a misidentified or mislabeled insect.

***Metachroma adustum* Suffrian.** In Cuba, this species has been found on *Eucalyptus*, *Psidium guajava* L. (Myrtaceae); *Rosa* (Rosaceae); and *Citrus sinensis* (L.) Osbeck (Rutaceae) (Blake, 1970b; Bruner *et al.*, 1975; Jolivet, 1979a). In previously unpublished investigations, we have associated Floridian beetles with *Conocarpus erectus* L. (Combretaceae).

***Metachroma anaemicum* Fall.** This species has been collected from *Quercus virginiana* P. Mill (Fagaceae) (Blake, 1970b). Additionally, in previously unpublished investigations, we have identified *M. anaemicum* labeled from Georgia in association with *Q. laevis* Walt.

***Metachroma angustulum* Crotch.** The food plant is reported to be *Salix* (Salicaceae) (Blake, 1970b; Blatchley, 1910; Clark, 2000; Douglass, 1929; Downie & Arnett, 1996; Raizenne, 1975; Vestal, 1913; Wilcox, 1979). Additionally, beetles have been recorded from *Asclepias* (Asclepiadaceae), *Cornus* (Cornaceae), *Oenothera* (Onagraceae), Jersey tea blossoms [*Ceanothus americanus* L.] (Rhamnaceae), apple [*Malus sylvestris* P. Mill.] (Rosaceae), *Populus* (Salicaceae), and *Capsicum* (Solanaceae) (Blake, 1970b; Blatchley, 1896, 1910; Clark, 2000; Downie & Arnett, 1996; Vestal, 1913). Overwintering beetles have been reported hibernating between the leaves of *Verbascum* (Scrophulariaceae) (Blatchley, 1896, 1910; Clark, 2000), but a food plant relationship was not suggested.

***Metachroma bridwelli* Blake.** In Mexico, this species has been found on zinnia [*Zinnia*] (Asteraceae) (Blake, 1970b).

***Metachroma californicum* Crotch.** Both subspecies, *M. c. anatolicum* Blake and *M. c. californicum*, have been reported in association with *Pluchea sericea* (Nutt.) Cov. (Asteraceae) (Blake, 1970b). In previously unpublished investigations, we have collected *M. c. anatolicum* in Texas by sweeping *Artemisia* (Asteraceae) at night. Also in Texas, we have collected adults of this subspecies from *Atriplex canescens* (Pursh) Nutt. (Chenopodiaceae).

***Metachroma clarkei* Blake.** This species has been recorded from *Laguncularia racemosa* (L.) Gaertn. (Combretaceae) (Peck & Thomas, 1998). Beyond this, Flowers & Janzen (1997) reported “*Metachroma* nr. *clarkei*” from Central America in association with *Avicennia germinans* (L.) L. (Avicenniaceae) and *Conocarpus erectus* L. (Combretaceae).

***Metachroma floridanum* Crotch.** This species has been collected from yellow thistle [*Cnicus spinosissimus* L.], lettuce [*Lactuca*] (Asteraceae); *Crotalaria*, “*Pithecolobium*” [presumably *Pithecellobium*] (Fabaceae); avocado [*Persea americana* Mill.] (Lauraceae); cotton [*Gossypium*], *Hibiscus* (Malvaceae); and sugar cane [*Saccharum officinarum* L.] (Poaceae) (Blake, 1970b; Kirk, 1970).

***Metachroma interruptum* (Say).** This species has been recorded in association with *Helianthus grosseserratus* Martens (Asteraceae); *Carya illinoensis* (Wang.) K. Koch (Juglandaceae); *Pyrus malus* L. [*Malus sylvestris* P. Mill.] (Rosaceae); *Populus*, willow [*Salix*] (Salicaceae); and *Taxodium* (Taxodiaceae) (Balsbaugh & Hays, 1972; Blake, 1970b; Blatchley, 1910; Downie & Arnett, 1996; Hendrickson, 1930b; Wilcox, 1979; Williams, 1988c).

***Metachroma laeviscolle* Crotch.** These insects have been reported from species of *Quercus* (Fagaceae), including *Q. marilandica* Muenchh., *Q. palustris* Muenchh., and *Q. rubra* L. (Blake, 1970b; Bray & Triplehorn, 1953; Clark, 2000; Felt, 1907; Schaeffer, 1912; Smith, 1900; Wilcox, 1979)

***Metachroma laterale* Crotch.** Schaeffer (1912) recorded this species beaten from *Quercus marilandica* Muenchh. (Fagaceae).

***Metachroma longicollis* Jacoby.** In the United States, this species has been collected from soybean [*Glycine max* (L.) Merr.] (Fabaceae), cotton [*Gossypium*] (Malvaceae), and *Paspalum notatum* Flüggé (Poaceae) (Blake, 1970b; Flowers *et al.*, 1994; Peck & Thomas, 1998). In Mexico, it has been collected from pineapple [*Ananas comosus* (L.) Merr.] (Bromeliaceae) and banana [*Musa*] (Musaceae) (Blake, 1970b).

***Metachroma luridum* (Olivier).** This species has been associated with *Quercus* (Fagaceae) (Blake, 1970b; Blatchley, 1924a, 1924c; Clark, 2000; Smith, 1910a; Wilcox, 1979). It has also been reported from *Juglans sieboldiana* Maxim. (Juglandaceae) (Barrett, 1932).

***Metachroma maculipenne* Schwarz.** This species has been associated with *Quercus virginiana* P. Mill. (Fagaceae) (Blake, 1970b; Blatchley, 1924a; Horn, 1892; Schwarz, 1878). It has also been swept from *Hypericum* (Clusiaceae) (Blatchley, 1924a), but sweeping records should not necessarily be interpreted as host associations.

***Metachroma marginale* Crotch.** This species has been associated with pecan [*Carya illinoensis* (Wang.) K. Koch] (Juglandaceae), and has sometimes destroyed new growth of young pecan trees (Balsbaugh & Hays, 1972; Blake, 1970b). It has also been reported from oak [*Quercus*] (Fagaceae) (Blatchley, 1924a; Dozier, 1918), but this association may have been based on specimens of *Metachroma luridum* (Olivier). Additionally, Felt (1907, 1930) stated that *M. marginale* is common on hard pine [*Pinus*] (Pinaceae); however, as with other records that predate Blake's (1970b) taxonomic revision, the identity of the beetles is questionable.

***Metachroma nigrosignatum* Blake.** In previously unpublished field work, we have determined that the host is *Atriplex polycarpa* (Torr.) S. Wats. (Chenopodiaceae). Collecting at night from this plant has provided large series of *M. nigrosignatum*.

***Metachroma orientale* Blake.** This species has been recorded from *Pinus taeda* L. (Pinaceae) (Blake, 1970b; Clark, 2000; Wilcox, 1979). In previously unpublished investigations, we have collected adults from *Quercus marilandica* Muenchh. and *Q. stellata* Wangenh. (Fagaceae) in east-central Texas. We have also taken large series in New Jersey by beating *Quercus*.

Beyond this, *Metachroma pallidum* (Say), a species that has frequently been confused with *M. orientale*, has been reported from various plants (see comments below). Possibly, some of these associations were based on *M. orientale*.

***Metachroma pallidum* (Say).** This species has been reported from red oak [*Quercus rubra* L.] (Fagaceae), *Persea borbonia* (L.) Spreng. (Lauraceae), poplar [*Populus*] (Salicaceae), and *Vitis* (Vitaceae) (Beutenmüller, 1890a; Blake, 1970b; Blatchley, 1910, 1924a; Clark, 2000; Felt, 1907; Kirk, 1970; Rouse & Medvedev, 1972; Smith, 1900, 1910a; Wilcox, 1954). It has also been collected by sweeping Bermuda grass [*Cynodon dactylon* (L.) Pers.] (Poaceae) (Kirk, 1970). In previously unpublished investigations in Kansas and Texas, we have collected adults from *Artemisia filifolia* J. Torr. (Asteraceae).

Schaeffer (1912) recorded *M. pallidum* beaten from *Quercus marilandica* Muenchh. (Fagaceae). However, his report was based on material from New York, beyond the generally recognized range of *M. pallidum*, and the identity of the beetles is therefore doubtful. Some reports of this beetle species may possibly have been based on specimens of *Metachroma orientale* Blake, a species that has frequently been confused with *M. pallidum*.

***Metachroma pellucidum* Crotch.** This species has been reported from *Quercus* (Fagaceae) and *Myrica* (Myricaceae) (Blatchley, 1924a; Clark, 2000). In previously unpublished investigations in east-central Texas, we have collected *M. pellucidum* at night by beating *Quercus marilandica* Muenchh. and *Q. stellata* Wangenh.

***Metachroma quercatum* (Fabricius).** These insects have been associated with species of *Quercus* (Fagaceae), including turkey oak [*Q. laevis* Walt.] and *Q. nigra* L. (Balsbaugh & Hays, 1972; Blake, 1970b; Downie & Arnett, 1996; Felt, 1907; Kirk, 1969, 1970; Smith, 1900, 1910a; Wilcox, 1979). They have also been reported from *Corylus* (Betulaceae), chinquapin [*Castanea*] (Fagaceae), pecan [*Carya illinoensis* (Wang.) K. Koch] (Juglandaceae), and pine [*Pinus*] (Pinaceae) (Blatchley, 1910; Downie & Arnett, 1996; Dozier, 1922; Kirk, 1969; Rouse & Medvedev, 1972; Wilcox, 1954). Beyond this, *M. quercatum* has also

been swept from huckleberry [*Gaylussacia*] (Ericaceae) (Blatchley, 1924a), but sweeping records should not necessarily be interpreted as host associations.

***Metachroma suturale* LeConte.** Chittenden (1895a) reported on a species “allied to *M. suturale*” that was damaging grape [*Vitis*] (Vitaceae). Beyond this, Bruner *et al.* (1975) recorded *M. suturale* from Cuba in association with *Psidium guajava* L. (Myrtaceae), but this was almost certainly based on misidentified beetles. In previously unpublished investigations in Texas, we have collected a large series of *M. suturale* from *Juniperus* (Cupressaceae).

***Metachroma testaceum* Blatchley.** This species has been recorded from guava flowers [*Psidium*] (Myrtaceae) (Blake, 1970b). In previously unpublished investigations, we have collected adults of the subspecies *M. t. testaceum* from *Eugenia foetida* Pers. (Myrtaceae) in southern Florida.

***Metachroma texanum* Schaeffer.** This species has been collected from ragweed [*Ambrosia*] (Asteraceae) (Blake, 1970b). Additionally, in previously unpublished field work in southern Florida and southern Texas, we have collected adults from *Salicornia* (Chenopodiaceae). Also in southern Texas, we have collected multiple series of this beetle species from *Borrchia frutescens* (L.) DC. (Asteraceae).

***Metachroma ustum* LeConte.** This species has been collected from sawgrass [*Cladium*] (Cyperaceae), string bean [*Phaseolus vulgaris* L.] (Fabaceae), and cotton [*Gossypium*] (Malvaceae) (Blake, 1970b).

***Metachroma viticola* Linell.** This species has been recorded from grape [*Vitis*] (Vitaceae) (Blake, 1970b; Linell, 1898). In previously unpublished field work conducted along the Texas coast, we have collected adults from *Heterotheca* (Asteraceae).

***Metachroma zayasi* Blake.** This species has been collected by beating *Conocarpus erectus* L. (Combretaceae) (Flowers *et al.*, 1994; Peck & Thomas, 1998).

***Metacycla insolita* (LeConte).** This species, doubtfully recorded from the United States, has been reported from Mexico in association with *Ambrosia ambrosioides* (Cav.) Payne and *Hymenoclea monogyra* J. Torr. & Gray ex A. Gray (Asteraceae) (Riley *et al.*, 2002).

***Metaparia clytroides* Crotch.** This species has been reported from *Cassia* and *Petalostemon* (Fabaceae) (Douglass, 1929; Popenoe, 1877; Schultz, 1970). Records maintained by the USDA-ARS Grassland, Soil and Water Research Laboratory state that adults in Bell County, Texas have been swept from foliage of *Gutierrezia dracunculoides* (DC.) Hoffm. and *G. texana* (DC.) Torr. & Gray (Asteraceae) (Thomas O. Robbins, pers. comm.).

***Metaparia opacicollis* (Horn).** This species has been reported from *Baccharis neglecta* Britt., *Ratibida columnaris* (Pursh) D. Don, *Verbesina encelioides* (Cav.) Benth. & Hook. f. ex A. Gray (Asteraceae); *Salsola pestifer* A. Nelson [*S. kali* L.] (Chenopodiaceae); *Prosopis glandulosa* J. Torr. (Fabaceae); cotton [*Gossypium*] (Malvaceae); and *Sporobolus wrightii* Munro ex Scribn. (Poaceae) (Palmer, 1987; Schultz, 1970; Ward *et al.*, 1977). Beyond this, Schultz (1970) recorded a specimen labeled as being “bred from *Solanum eleagn* bud” [presumably *S. elaeagnifolium* Cav.] (Solanaceae), but he rightly doubted the authenticity of this association. In previously unpublished investigations, we have seen *M. opacicollis* labeled from Texas in association with *Prosopis juliflora* (Sw.) DC. [*P. glandulosa*] (Fabaceae).

***Metaparia viridimicans* (Horn).** This species has been reported from *Prosopis glandulosa* J. Torr. (Fabaceae) (Schultz, 1970; Ward *et al.*, 1977). Additionally, the synonym *Colaspoides macrocephalus* Schaeffer has been reported from flowers of cactus [Cactaceae], as well as from *Gossypium hirsutum* L. (Malvaceae) (Hunter *et al.*, 1912; Moreno & Bibby, 1943). Also, Fall & Cockerell (1907) recorded beetles in association with *Sphaeralcea cuspidata* (A. Gray) Britton (Malvaceae); however, the plant identification was questionable. In previously unpublished investigations, we have identified specimens that were labeled from Texas in association with Texas ebony [*Ebenopsis ebano* (Berl.) Barneby & Grimes] (Fabaceae).

***Metaparia* spp.** In his unpublished dissertation, Schultz (1970) recognized two new species. Specimens were labeled from “Guijillo” [guajillo, *Acacia berlandieri* Benth.], bean [likely *Phaseolus vulgaris* L.], *Prosopis* (Fabaceae); cotton [*Gossypium*] (Malvaceae); and *Sapindus drummondii* Hook. & Arn. (Sapindaceae). However, Schultz stated that some occurrences were probably incidental. In previously unpublished investigations in southern Texas, we have collected one of Schultz’s species from *Ziziphus obtusifolia* A. Gray (Rhamnaceae).

***Metaxyonycha godmani* Jacoby.** Arnett & Jacques (1981) indicated that the distribution of this species includes Arizona. They stated that larvae and adults feed only on day flower [*Commelina*] (Commelinaceae). Even so, *M. godmani* is a Central American species that probably does not occur north of Mexico.

***Metrioidea atriceps* (Horn).** In previously unpublished investigations, we have seen specimens labeled from Arizona in association with *Helianthus nuttallii* J. Torr. & A. Gray (Asteraceae).

***Metrioidea blakeae* (Wilcox).** This species has been collected from *Opuntia* (Cactaceae); *Callirhoe involucrata* (J. Torr. & A. Gray) A. Gray, *Gossypium* (Malvaceae); and *Anemone* (Ranunculaceae) (Blake, 1942; Wilcox, 1965). It has also been reported from flowers of *Baccharis salicifolia* (Ruíz & Pav.) Pers.

(Asteraceae) (Boldt & Robbins, 1990). Additionally, “*Calomicrus* prob. *blakeae*” has been reported from *Baccharis neglecta* Britt. (Palmer, 1987). Records maintained by the USDA-ARS Grassland, Soil and Water Research Laboratory state that adults of *M. blakeae* have been collected in Texas by sweeping foliage of *Baccharis salicifolia* and *Gutierrezia dracunculoides* (DC.) Hoffm. (Asteraceae) (Thomas O. Robbins, pers. comm.).

***Metrioidea brunnea* (Crotch).** This species has been recorded from *Dahlia* (Asteraceae); cactus flowers [Cactaceae]; *Abelmoschus esculentus* (L.) Moench, *Alcea rosea* L., *Gossypium herbaceum* L. (Malvaceae); and *Zea mays* L. (Poaceae) (Balsbaugh & Hays, 1972; Bennett, 1955; Blake, 1942; Harned, 1953; Hunter *et al.*, 1912; Langston & Hutchins, 1955; Löding, 1945; Odom, 1963; Wilcox, 1965; Young, 1958). Beyond this, Blake (1942) reported specimens belonging to this species, or to a very similar undescribed species, that were associated with dahlia [*Dahlia*] (Asteraceae); hollyhock [*Alcea rosea*], cotton [*Gossypium*] (Malvaceae); and cornsilk [*Zea mays*] (Poaceae). In previously unpublished investigations, we have collected adults of *M. brunnea* from flowers of *Rhus glabra* L. (Anacardiaceae) in central Louisiana.

***Metrioidea convexa* (Blake).** This species has been collected from flowers of *Helianthus* (Asteraceae) (Blake, 1942; Wilcox, 1965, 1979). Riley & Enns (1979) also reported it from flowers of a composite [Asteraceae].

***Metrioidea morula* (LeConte).** Knowlton (1955c) recorded “*Luperodes* sp. possibly *morulus* Lec.” from iris [*Iris*] (Iridaceae) and strawberry [*Fragaria*] (Rosaceae). However, his report was from Utah, beyond the normally recognized range of this Texas species, and it was likely based on beetles other than true *M. morula*.

***Metrioidea popenoei* (Blake).** In previously unpublished investigations, Thomas O. Robbins (pers. comm.) has collected this species in central Texas from *Eryngium leavenworthii* T. & G. (Apiaceae); *Gnodelia nuda* Wood and *Solidago altissima* L. (Asteraceae). The plants were in flower at the times of collection. We have examined beetle vouchers and confirm the identifications.

***Metrioidea varicornis* (LeConte).** This species has been found on leaves and fruit of almond [*Prunus dulcis* (Mill.) D. A. Webb] (Rosaceae) (Blake, 1942). Additionally, in previously unpublished investigations, we have collected adults of *M. varicornis* from flowers *Fallugia paradoxa* (D. Don) Endl. ex Torr. (Rosaceae) in western Texas. We have also seen specimens labeled from Texas in association with “*Sapindus* (probably *S. saponaria* L.)” (Sapindaceae).

This beetle species has also been reported from Asteraceae (genus not specified); hollyhock [*Alcea rosea* L.], *Althaea*, cotton [*Gossypium*] (Malvaceae); and corn [*Zea mays* L.] (Poaceae) (Douglass, 1929; Dozier, 1922; Forbes, 1905; Harned, 1915; Kirk, 1970; Neiswander, 1931; Popenoe, 1877). However, many of these records predate important taxonomic revision, and the identity of the beetles is therefore questionable. In some instances, the insects were clearly misidentified.

***Metrionella bilimeki* (Spaeth).** This species is associated with Convolvulaceae, including *Ipomoea* (Riley, 1986a; Riley *et al.*, 2002). In Central America, it has also been reported from *Sida* (Malvaceae) and *Sesamum* (Pedaliaceae) (Maes & Staines, 1991), but these occurrences may have been incidental.

***Microctenochira bonvouloiri* (Boheman).** This species has been associated with *Ipomoea wolcottiana* Rose and *Merremia dissecta* (Jacq.) Hallier f. (Convolvulaceae) (Borowiec, 1999; Noguera, 1988; Riley, 1986a; Riley *et al.*, 2002).

***Microrhopala erebus* (Newman).** This species has been found on Asteraceae, including *Solidago* (Blatchley, 1924a; Clark, 1983; McCauley, 1938; Peck & Thomas, 1998; Schwarz, 1878). It has also been found on oak [*Quercus*] (Fagaceae) (Blatchley, 1924a; McCauley, 1938), but this occurrence was certainly incidental.

***Microrhopala excavata* (Olivier).** This species is associated with Asteraceae. The subspecies *M. e. excavata* has been recorded from *Doellingeria umbellata* (Mill.) Nees and *Solidago* (Clark, 1983; Douglass, 1929; Downie & Arnett, 1996; Ford & Cavey, 1985; Messina & Root, 1980). The subspecies *M. e. cyanea* (Say) has been reported from *Helianthus annuus* L., *Heterotheca villosa* (Pursh) Shinnars, and *Solidago drummondii* J. Torr. & A. Gray (Clark, 1983; Grant, 1969; Hilgendorf & Goeden, 1981; Riley & Enns, 1979; Walker, 1936). Beyond this, Dearborn & Donahue (1993) reported *M. excavata* reared from “*lidago*.” Certainly, this was a misprint, with *Solidago* likely being intended.

In previously unpublished investigations in Texas, we have associated *M. excavata* with *Heterotheca*. In east-central Texas, we have collected adults of a small form of this beetle from *Symphyotrichum praealtum* (Poir.) Nesom (Asteraceae). In Missouri, we have collected adults of the subspecies *M. e. cyanea* from *Rudbeckia missouriensis* Englem. ex C. L. Boynt. & Beadle and *Solidago petiolaris* Ait. Also in Missouri, we have found adults of *M. e. excavata* on *Helianthus strumosus* L., and a captive beetle fed extensively on this plant. We have also found an adult on *Solidago ulmifolia* Muhl. ex Willd. in Missouri.

Beyond Asteraceae, *M. excavata* has been reported from larch [*Larix*] (Pinaceae) (Dearborn & Donahue, 1993). However, this occurrence was surely adventitious.

***Microrhopala floridana* Schwarz.** This species feeds on *Pityopsis graminifolia* (Michx.) Nutt. (Asteraceae) (Chittenden, 1902b, 1904b; Clark, 1983; Frost, 1924; Maulik, 1937; McCauley, 1938; Needham *et al.*, 1928). It has also been found on *Lupinus diffusus* Nutt. (Fabaceae) (Blatchley, 1924a; Clark, 1983; McCauley, 1938; Peck & Thomas, 1998), but this occurrence was almost certainly incidental.

***Microrhopala laetula* LeConte.** This species is associated with *Silphium perfoliatum* L. (Asteraceae) (Clark, 2000; Downie & Arnett, 1996). Additionally, in previously unpublished investigations in Wisconsin, Andrew H. Williams (pers. comm.) has found *M. laetula* feeding on *S. terebinthinaceum* Jacq.

This beetle species has also been reported from *Solidago rigida* L. (Asteraceae) (Popenoe, 1877). However, this association may have been based on misidentified beetles.

***Microrhopala rileyi* Clark.** This species is reported to feed on *Helianthus* (Asteraceae) (Clark, 1983; Downie & Arnett, 1996). Beyond this, McCauley (1938) and Riley & Enns (1979) recorded larger than normal specimens of “*Microrhopala rubrolineata* (Mannerheim)” collected from *Helianthus hirsutus* Raf. in Missouri. These were likely examples of *M. rileyi*. In previously unpublished investigations in Missouri, we have indeed found *M. rileyi* feeding on *H. hirsutus*.

***Microrhopala rubrolineata* (Mannerheim).** This species, including populations in Mexico, is associated with Asteraceae. It has been reported from *Ambrosia acanthicarpa* Hook., *A. ambrosioides* (Cav.) Payne, *A. chenopodiifolia* (Benth.) W. W. Payne, *A. confertiflora* DC., *A. dumosa* (A. Gray) W. W. Payne, *Aster*, *Brickellia vernicosa* B. L. Rob., *Encelia californica* Nutt., *E. farinosa* A. Gray, *E. halimifolia* Cav., *Flourensia cernua* DC., *Haplopappus squarrosus* Hook. & Arn., *H. venetus* (Kunth in H. B. K.) Blake, *Helianthus hirsutus* Raf., *Heterotheca grandiflora* Nutt., *Solidago californica* Nutt., and *Xanthium strumarium* L. (Bibby, 1961; Brisley, 1925; Carr, 1988; Clark, 1983; Fall, 1901; Goeden & Ricker, 1975, 1976a, 1976b; Hilgendorf & Goeden, 1983; Jones & Brisley, 1925; McCauley, 1938; Moldenke, 1971; Moore, 1937; Richerson & Boldt, 1995). In previously unpublished observations, we have associated *M. rubrolineata* with *Encelia palmeri* Vasey & Rose, *Viguiera chenopodina* Greene, and *V. tomentosa* A. Gray.

Beyond these associations, McCauley (1938) and Riley & Enns (1979) recorded larger than normal specimens of *M. rubrolineata* collected from *Helianthus hirsutus* in Missouri. However, these were likely examples of *M. rileyi* Clark.

***Microrhopala vittata* (Fabricius).** Normal hosts are species of *Solidago* and, less commonly, the closely related genus *Euthamia* (both Asteraceae), *M. vittata* having been recorded from *E. graminifolia* (L.) Nutt., *S. altissima* L., *S. canadensis* L., *S. gigantea* Ait., *S. juncea* Ait., *S. missouriensis* Nutt., *S. mollis* Bartl., *S. rugosa* P. Mill., and *S. sempervirens* L. (Baker, 1895; Beller & Hatch, 1932; Beutenmüller, 1890a; Bland & Jaques, 1978; Blatchley, 1910; Capek, 1971; Cappuccino, 1991a, 1991b; Carr, 1988; Chittenden, 1902b, 1904b; Clark, 1983, 2000; Damman & Cappuccino, 1991; Dearborn & Donahue, 1993; Dillon & Dillon, 1961; Downie & Arnett, 1996; Ford & Cavey, 1985; Frost, 1924; Harris, 1835; Hatch, 1971; Kirk, 1970; Lawson, 1991; Maddox & Root, 1987, 1990; Maulik, 1937; McCauley, 1938; Messina & Root, 1980; Needham *et al.*, 1928; Peterson, 1960; Riley & Enns, 1979; Root, 1996; Root & Cappuccino, 1992; Russell, 1968; Smith, 1900, 1910a; Ulke, 1903; Uriarte, 2000; Wickham, 1902; Wilcox, 1954, 1979). Additionally, this beetle species has been reported feeding on balsamroot [*Balsamorhiza*] (Asteraceae) (Knowlton, 1951b).

In previously unpublished field work in West Virginia, we have associated populations with *Solidago uliginosa* Nutt. In both Illinois and Missouri, we have collected adults from *S. ulmifolia* Muhl. ex Willd. Andrew H. Williams (pers. comm.) has found this beetle species feeding on *S. rigida* L. in Wisconsin.

Hosts have also been reported to be *Silphium laciniatum* L. and *S. perfoliatum* L. (Asteraceae) (Beller & Hatch, 1932; Carr, 1988; Clark, 1983; Ford & Cavey, 1985; Hendrickson, 1928, 1930a, 1930b; Marcovitch, 1916; McCauley, 1938). However, these associations were probably based on misidentified specimens of *Microrhopala laetula* LeConte.

Additionally, *M. vittata* has been recorded from sage [*Artemisia* (Asteraceae) or *Salvia* (Lamiaceae)]; *Aster*, *Sericocarpus* (Asteraceae); brake fern [*Pteridium aquilinum* (L.) Kuhn] (Dennstaedtiaceae); fir [*Abies*], white pine [*Pinus strobus* L.] (Pinaceae); and grass [Poaceae] (Carr, 1988; Cockerell, 1902; Dearborn & Donahue, 1993; Kirk, 1970; Kirk & Balsbaugh, 1975; Maulik, 1937; Whelan, 1936). Even so, at least the non-asteraceous occurrences were surely incidental. Capek (1971) stated that *M. vittata* was a polyphagous species known to be injurious to melon [likely *Citrullus lanatus* (Thunb.) Matsum. & Nakai or *Cucumis melo* L.] (Cucurbitaceae). However, this statement was likely based on confusion with *Acalymma vittatum* (Fabricius).

***Microrhopala xerene* (Newman).** This species is associated with Asteraceae, having been reported from *Ambrosia chamissonis* (Less.) Greene, *A. psilostachya* DC., *Boltonia asteroides* (L.) L'Her., *Sericocarpus asteroides* (L.) B.S.P., *Solidago caesia* L., *S. canadensis* L., *S. juncea* Ait., *Symphyotrichum chilensis* (Nees) Nesom, *S. cordifolium* (L.) Nesom, *Aster simplex* Willd. [*S. lanceolatum* (Willd.) Nesom], *S. novae-angliae* (L.) Nesom, *S. patens* (Ait.) Nesom, and *S. puniceum* (L.) A. & D. Löve (Blatchley, 1910; Chagnon,

1938; Chagnon & Robert, 1962; Chittenden, 1902b, 1904b; Clark, 1983, 2000; Downie & Arnett, 1996; Ford & Cavey, 1985; Frost, 1924; Goeden & Ricker, 1974b, 1976c; Hatch, 1971; Johnson, 1927; Kirk & Balsbaugh, 1975; Maulik, 1937; McCauley, 1938; Needham *et al.*, 1928; Proctor, 1938, 1946; Riley & Enns, 1979; Smith, 1900, 1910a; Ulke, 1903; Wilcox, 1954, 1979; Williams, 1989c, 1991b).

***Microtheca ochroloma* Stål.** This species, including populations in South America, normally feeds on Brassicaceae, including *Barbarea*, *Brassica juncea* (L.) Czern., *B. oleracea* L., *B. rapa* L., *Lepidium virginicum* L., *Raphanus sativus* L., and *Nasturtium officinale* R. Br. [*Rorippa nasturtium-aquaticum* (L.) Hayek.] (Ameen & Story, 1997a, 1997b, 1997c; Anonymous, 1962a; Balsbaugh, 1978, 1983; Chamberlin & Tippins, 1948; Edwards, 1949; Flowers *et al.*, 1994; Jolivet, 1950; Oliver & Chapin, 1983; Peck & Thomas, 1998; Rohwer *et al.*, 1953; Staines, 1999; Wilcox, 1972; Woodruff, 1974).

It has also been reported from *Baccharis halimifolia* L. (Asteraceae); *Zea mays* L. (Poaceae); *Rumex pulcher* L. (Polygonaceae); Primulaceae (genus not specified); rose [*Rosa*] (Rosaceae); pepper [*Capsicum*] and Irish potato [*Solanum tuberosum* L.] (Solanaceae) (Anonymous, 1960d, 1962a; Balsbaugh, 1978; Balsbaugh & Hays, 1972; Flowers *et al.*, 1994; Gentry, 1954; Jolivet, 1950, 1998b; Oliver & Chapin, 1983; Palmer, 1987; Peck & Thomas, 1998; Rohwer *et al.*, 1953; Woodruff, 1974). Although some of these non-brassicaceous associations definitely involved feeding, others may have been purely incidental. Additionally, specimens have been collected by sweeping vetch [likely *Coronilla* or *Vicia*] and clover [likely *Trifolium*] (Fabaceae) (Oliver & Chapin, 1983), but sweeping records should not necessarily be interpreted as host associations. Beyond these reports, *M. ochroloma* has been intercepted in Louisiana on grape [*Vitis*] (Vitaceae) from Argentina (Balsbaugh, 1978; Chamberlin & Tippins, 1948; Oliver & Chapin, 1983), but this plant may not be a host.

***Microtheca picea* (Guérin-Ménéville).** This species has been reported from *Lepidium virginicum* L. (Brassicaceae) (Flowers *et al.*, 1994; Oliver & Chapin, 1983; Peck & Thomas, 1998). It has also been collected by sweeping *Medicago*, *Trifolium resupinatum* L., and *Vicia* (Fabaceae) (Oliver & Chapin, 1983), but sweeping records should not necessarily be interpreted as host associations.

***Miraces aeneipennis* Jacoby.** This species has been found repeatedly on *Condalia hookeri* M. C. Johnston (Rhamnaceae) (Riley *et al.*, 2002). Additionally, in previously unpublished investigations, we have collected adults of this beetle species in southern Texas from *Karwinskia humboldtiana* (Willd. ex Roem. & Schult.) Zucc. (Rhamnaceae). We have also seen specimens labeled from Texas in association with *Diospyros texana* Scheele (Ebenaceae).

***Miraces modesta* (Horn).** Riley *et al.* (2002) reported *Miraces placida* (Horn) in association with *Eugenia* (Myrtaceae). However, this was an error. The beetles involved were actually *M. modesta*.

***Miraces placida* (Horn).** This species is reported to feed on *Rhamnus californica* Eschsch. (Rhamnaceae) (Brisley, 1925). Additionally, in previously unpublished investigations, we have collected Arizona beetles from *Prunus emarginata* Dougl. (Rosaceae).

Riley *et al.* (2002) reported *M. placida* in association with *Eugenia* (Myrtaceae). However, this was an error. The beetles involved were actually *Miraces modesta* (Horn).

***Monocesta coryli* (Say).** This species has been recorded from various species of *Ulmus* (Ulmaceae), including *U. americana* L., *U. japonica* (Rehder) Sarg., *U. parvifolia* Jacq., *U. pumila* L., and *U. rubra* Muhl. (Abdullah & Qureshi, 1968; Anderson & Papp, 1961; Anonymous, 1985; Baerg, 1929; Baker, 1972; Beutenmüller, 1890a; Blatchley, 1918, 1924a; Böving, 1929; Clark, 1986, 2000; Craighead, 1923; Doane *et al.*, 1936; Downie & Arnett, 1996; Felt, 1907; Harrington, 1883; Herrick, 1935; Hicks & Mudrick, 1994; Hoffman, 1942; Howard, 1905; Johnson & Lyon, 1991; Kelsheimer, 1945; Kirk, 1970; Miller, 1975; Packard, 1890; Papp, 1984; Peck & Thomas, 1998; Perkins, 1890; Peterson, 1960; Riley, 1879; Riley *et al.*, 2002; Swan & Papp, 1972; Thomas, 1995; Ulke, 1903; H. E. Weed, 1895; Welden, 1908; Westcott, 1946; Wilcox, 1965, 1979). *Ulmus rubra* is a particularly favored host. Under laboratory conditions, larvae have been induced to feed sparingly on *U. alata* Michx. (Baerg, 1935).

Beyond reports involving *Ulmus*, this beetle species has also been recorded from *Nolina recurvata* (Lem.) Hemsl. (Agavaceae); *Impatiens* (Balsaminaceae); *Betula nigra* L., *Corylus americana* Walt. (Betulaceae); dogwood [*Cornus*] (Cornaceae); *Cycas revoluta* Thunb. (Cycadaceae); *Rhododendron* (Ericaceae); honey locust [*Gleditsia triacanthos* L.], soybean [*Glycine max* (L.) Merr.] (Fabaceae); *Carya illinoensis* (Wang.) K. Koch (Juglandaceae); *Passiflora incarnata* L. (Passifloraceae); *Crataegus crus-galli* L., *C. succinata* Sarg. [*C. punctata* Jacq.], loquat [*Eriobotrya japonica* (Thunb.) Lindl.] (Rosaceae); *Cephalanthus occidentalis* L. (Rubiaceae); *Citrus paradisi* Macfad., *C. sinensis* (L.) Osbeck (Rutaceae); and basswood [*Tilia*] (Tiliaceae) (Abdullah & Qureshi, 1968; Anderson & Papp, 1961; Anonymous, 1985; Baerg, 1929, 1935; Baker, 1972; Beutenmüller, 1890a; Blatchley, 1910, 1924a; Böving, 1929; Clark, 1986; Deitz *et al.*, 1976; Downie & Arnett, 1996; Felt, 1907; Hicks & Mudrick, 1994; Johnson & Lyon, 1991; Kirk, 1970; LeConte, 1865; Miller, 1975; Packard, 1890; Papp, 1984; Peck & Thomas, 1998; Peterson, 1960; Riley, 1879; Robert-

son, 1962; Say, 1824; Swan & Papp, 1972; Thomas, 1995; Westcott, 1946; Wilcox, 1965, 1979).

Regarding the association with *Crataegus*, Baerg (1935) noted that attack and sometimes defoliation by last instar larvae occurs when plants are in close proximity to *Ulmus*. Likely, some of the other non-*Ulmus* associations resulted from similar situations. Perhaps, when *Ulmus* is nearly defoliated and no longer available as a food source, larvae migrate to nearby plants to complete their development. Concerning hazelnut [*Corylus*], Baerg (1935) acknowledged reports of complete defoliation, but he also recorded personal observations that, although plants were common, no evidence of feeding was observed in an area where larvae were abundant. He noted that, in an insectary, larvae refused to feed on this plant. Many of the above-mentioned, non-*Ulmus* occurrences were probably incidental.

***Monomacra bumeliae* (Schaeffer).** This species has been beaten from branches of *Bumelia* (Sapotaceae) (Riley *et al.*, 2001, 2002; Schaeffer, 1905).

***Monomacra opaca* Wilcox.** This species has been collected from *Sideroxylon lanuginosa* Michx. (Sapotaceae) (Riley *et al.*, 2001, 2002).

***Monoxia angularis* (LeConte).** This species feeds on Chenopodiaceae, including *Atriplex prostrata* Boucher ex DC., *Beta vulgaris* L., *Chenopodium album* L., and *Kochia* (Blake, 1939; Carr, 1988; Futuyma & McCafferty, 1990; Hatch, 1971; Wilcox, 1965). Additionally, “*Monoxia* sp., probably *angularis*” has been reported from *Atriplex* (Gittins, 1963).

Beyond Chenopodiaceae, *M. angularis* has also been reported from *Solanum tuberosum* L. (Solanaceae) (Carr, 1988; Hatch, 1971). However, associations with this plant were likely incidental.

***Monoxia apicalis* Blake.** The host plant is reported to be *Atriplex* (Chenopodiaceae) (Santiago-Blay & Virkki, 1996). Beyond this, Foster *et al.* (1981) found adults to be occasionally present while investigating the insects associated with *Gutierrezia sarothrae* (Pursh) N. L. Britt. & Rusby (Asteraceae). In previous unpublished observations from Baja California, we have found beetles in association with *Encelia*, *Isocoma menziesii* (Hook. & Arn.) G. Nesom (Asteraceae); *Salicornia* (Chenopodiaceae); and *Prosopis* (Fabaceae).

***Monoxia batisia* Blatchley.** This species feeds on *Batis maritima* L. (Bataceae) (Blake, 1937a, 1939; Blatchley, 1917, 1924a; Flowers *et al.*, 1994; Peck & Thomas, 1998; Wilcox, 1965). It has also been associated with *Lycium carolinianum* Walt. (Solanaceae) (Flowers *et al.*, 1994; Peck & Thomas, 1998; Santiago-Blay & Virkki, 1996). In previously unpublished investigations, we confirm the association with *L. carolinianum*, having collected adult beetles from this plant in both southern Texas and the western coast of southern Florida.

***Monoxia brisleyi* Blake.** This species has been associated with *Chenopodium album* L. (Chenopodiaceae) (Blake, 1939; Carr, 1988; Wilcox, 1965).

***Monoxia consputa* (LeConte).** Larvae have been associated with *Grindelia* (Asteraceae); *Atriplex* and *Chenopodium album* L. (Chenopodiaceae) (Böving, 1929; Essig, 1958; Hatch, 1971; Haws *et al.*, 1990). Often without mention of life stage, *M. consputa* has otherwise been recorded from *Ericameria nauseosa* (Pall. ex Pursh) Nesom & Baird, *Grindelia* (Asteraceae); *Atriplex*, *Beta vulgaris* L., *Chenopodium album* (Chenopodiaceae); *Quercus* (Fagaceae); *Populus*, *Salix* (Salicaceae); and *Lycium pallidum* Miers (Solanaceae) (Abdullah & Qureshi, 1968; Böving, 1929; Brisley, 1925; Carr, 1988; Chittenden, 1903b, 1903c, 1912b; Crosby & Leonard, 1918; Essig, 1915b, 1958; Forbes & Hart, 1900; Hatch, 1971; Herrick, 1935; Horning & Barr, 1970; Jaques, 1951; Knowlton, 1930; LeConte, 1865; Tanner, 1928; Wilcox, 1965). In previously unpublished observations, we have collected specimens in California from *Artemisia* (Asteraceae).

Blake (1939) reported collecting a series of this beetle species, or of a very closely related species, from *Ericameria nauseosa* (Asteraceae). Knowlton (1957a, 1957b) similarly recorded “*Monoxia* sp. near *consputa*” from *E. nauseosa*. Furniss (1972) reported “*Monoxia* sp. poss. *consputa*” from *Purshia tridentata* (Pursh) DC. (Rosaceae), but this occurrence was probably incidental.

Unfortunately, species recognition in the genus *Monoxia* is difficult, and some of the reported associations were almost certainly based on misidentified beetles. The associations with *Populus* and *Salix* may have been based on misidentified specimens of *Tricholochmaea*. The occurrence on *Quercus* was probably adventitious.

***Monoxia debilis* LeConte.** This species has been recorded in association with *Beta vulgaris* L. and *Chenopodium album* L. (Chenopodiaceae) (Carr, 1988; Hatch, 1971; Jolivet & Verma, 2002). Additionally, Fall (1927) reported Mexican beetles, doubtfully identified as the synonym *M. obtusa* LeConte, that were associated with *Atriplex* (Chenopodiaceae).

Beyond this, *M. debilis* has been recorded from *Descurainia sophia* (L.) Webb in Engler & Prantl (Brassicaceae) (Knowlton, 1939; Knowlton & Smith, 1935), but this occurrence may have been adventitious. Horning & Barr (1970) reported *M. debilis* swept from *Ericameria nauseosa* (Pall. ex Pursh) Nesom & Baird (Asteraceae), but sweeping records should not necessarily be interpreted as host associations.

Also, this beetle species has been reported doing considerable damage to *Populus* (Salicaceae) (Carr,

1988; Cooley, 1916; Essig, 1958), but this association was likely based on misidentified *Tricholochmaea*. Townsend (1902) reported *M. debilis* from the Lower Rio Grande Valley of Texas and adjacent Mexico in association with wild bamboo [*Arundinaria*, *Bambusa*, or a similar genus] (Poaceae). However, *M. debilis* is not known to occur in the Lower Rio Grande Valley, and this record was probably based on misidentification. Sweet (1930) reported *M. debilis* from *Artemisia californica* Less. and *A. heterophylla* Besser (Asteraceae) and from *Eriogonum fasciculatum* Benth. (Polygonaceae), but her observations were from California and were likely also based on misidentified insects.

***Monoxia elegans* Blake.** Food plants are reported to be Chenopodiaceae, including *Atriplex canescens* (Pursh) Nutt., *Beta vulgaris* L., and *Chenopodium*, and beetles have also been recorded from *Sorghum vulgare* Pers. [*S. bicolor* (L.) Moench] (Poaceae) (Anonymous, 1962b; Blake, 1939; Hatch, 1971; Haws *et al.*, 1984; Wilcox, 1965).

***Monoxia grisea* Blake.** This species has been recorded from *Artemisia tridentata* Nutt., *Chrysothamnus*, and *Solidago* (Asteraceae) (Blake, 1939; Halford *et al.*, 1973a, 1973b; Hatch, 1971; Russell, 1968; Wilcox, 1965).

***Monoxia guttulata* (LeConte).** Hosts are reported to be species of *Artemisia* (Asteraceae), including *A. californica* Less. and *A. douglasiana* Besser (Blake, 1939; Carr, 1988; Santiago-Blay & Virkki, 1996; Wilcox, 1965). Beetles are also reported to injure sugar beet [*Beta vulgaris* L.] (Chenopodiaceae) in Oregon (Chittenden, 1898e), but this was likely based on misidentified insects.

***Monoxia inornata* Blake.** Food plants are reported to be *Grindelia squarrosa* (Pursh) Dun. and *Solidago* (Asteraceae) (Blake, 1939; Kirk & Balsbaugh, 1975; Wilcox, 1965). Additionally, “*Monoxia* sp. 1 (near *M. inornata* Blake 1939)” has been recorded from *Grindelia humilis* Hook. & Arn. (Santiago-Blay & Virkki, 1996).

“*Monoxia*” resembling this beetle species are reported to be injurious to cottonwood [*Populus*] (Salicaceae) (Blake, 1939). Such reports may have been based on specimens that were misidentified, due either to their poor condition or to the difficulty of some workers in determining genera of the tribe Galerucini. Perhaps they were based on populations of *Tricholochmaea*.

***Monoxia minuta* Blake.** This species has been reported from *Chrysothamnus* (Asteraceae) (Hatch, 1971; Jolivet, 2001). Additionally, “*Monoxia* sp., possibly *minuta*” has been collected in Hawaii by sweeping *Atriplex semibaccata* R. Br. (Chenopodiaceae) (Beardsley, 1962). In previously unpublished observations in Baja California, we have associated beetles with *Atriplex barclayana* (Benth.) D. Dietr.

***Monoxia obesula* Blake.** Hosts are reported to be *Atriplex* and *Chenopodium* (Chenopodiaceae) (Blake, 1939; Santiago-Blay & Virkki, 1996; Wilcox, 1965).

***Monoxia pallida* Blake.** Food plants are reported to be *Beta vulgaris* L. and *Chenopodium* (Chenopodiaceae) (Blake, 1939; Hatch, 1971; Lawson, 1991; Wilcox, 1965). Additionally, Rouse & Medvedev (1972) reported this beetle species from lamb’s quarters [*Chenopodium album* L.], but this association was made in Arkansas, beyond the normally recognized range of *M. pallida*, and the insect identification is doubtful. Also, *M. pallida* has been recorded from alfalfa [*Medicago sativa* L.] (Fabaceae) (Hatch, 1971), but this occurrence was likely adventitious. Beyond these reports, Cranshaw *et al.* (1990) reported damage to *Chenopodium quinoa* Willd. by “*Monoxia* nr. *pallida* Blake.”

***Monoxia puberula* Blake.** This species has been reported from *Chrysothamnus*, *Gutierrezia sarothrae* (Pursh) N. L. Britt. & Rusby (Asteraceae); *Lepidium montanum* Nutt. (Brassicaceae); and *Atriplex confertifolia* (J. Torr.) S. Wats. (Chenopodiaceae) (Blake, 1939; Carr, 1988; Foster *et al.*, 1981; Hatch, 1971; Russell, 1968; Wilcox, 1965). Additionally, “*Monoxia* sp. (possibly *M. puberula* Blake 1939)” has also been reported from *Gutierrezia* (Santiago-Blay & Virkki, 1996). In previously unpublished observations, we have associated California populations of *M. puberula* with *Gutierrezia californica* (DC.) J. Torr. & A. Gray.

***Monoxia schizonycha* Blake.** Food plants are reported to be *Chrysothamnus* (Asteraceae) and *Beta vulgaris* L. (Chenopodiaceae) (Blake, 1939; Carr, 1988; Hatch, 1971; Wilcox, 1965). In previously unpublished investigations, we have associated beetles with *Isocoma menziesii* var. *vernonioides* (Nutt.) G. Nesom (Asteraceae), and we have seen specimens labeled from Oregon in association with *Chenopodium* (Chenopodiaceae).

***Monoxia sordida* (LeConte).** This species has been recorded from *Artemisia*, *Ericameria nauseosa* (Pall. ex Pursh) Nesom & Baird, *Gutierrezia sarothrae* (Pursh) N. L. Britt. & Rusby, *Isocoma veneta* (Kunth) Greene, *Iva axillaris* Pursh (Asteraceae); *Atriplex lentiformis* (J. Torr.) S. Wats., *Chenopodium album* L., *Suaeda fruticosa* Forsskal ex J. F. Gmel. (Chenopodiaceae); marsh grass [*Spartina*] (Poaceae); and *Lycium pallidum* Miers (Solanaceae) (Blake, 1939; Brisley, 1925; Carr, 1988; Hatch, 1971; Moore, 1937; Santiago-Blay & Virkki, 1996; Stace Smith, 1930; Wilcox, 1965). Beyond these reports, Ward *et al.* (1977) listed “*Monoxia* sp. near *sordida*” from mesquite [*Prosopis*] (Fabaceae).

In previously unpublished investigations in southern Texas, we have collected adults of *M. sordida* from *Lycium berlandieri* Dunal and *L. carolinianum* Walt. (Solanaceae). In Baja California, we have collected

this beetle species from *Cercidium* (Fabaceae). Additionally, we have identified a series of adults (nine specimens) labeled from Utah in association with *Suaeda torreyana* S. Watson (Chenopodiaceae). Records maintained by the USDA-ARS Grassland, Soil and Water Research Laboratory state that adults have been collected from foliage of *Guajacum angustifolium* Engelm. (Zygophyllaceae) in Zavala County, Texas (Thomas O. Robbins, pers. comm.).

***Monoxia* sp.** Santiago-Blay (1990) reported that an undescribed species of *Monoxia* from California naturally feeds on *Grindelia humilis* Hook. & Arn. (Asteraceae). He further reported that, in laboratory tests, significant feeding occurred not only on this plant but also on *Grindelia integrifolia* DC., *G. oregana* A. Gray, *G. robusta* Nutt., *G. squarrosa* (Pursh) Dun., and *Silybum marianum* (L.) Gaertn. (Asteraceae).

***Myochrous cyphus* Blake.** In the United States, this species has been found on cotton [*Gossypium*] (Malvaceae); rice [*Oryza sativa* L.], sugarcane [*Saccharum officinarum* L.], wheat [*Triticum*], corn [*Zea mays* L.] (Poaceae); and Irish potato [*Solanum tuberosum* L.] (Solanaceae) (Blake, 1950). It has also been intercepted in shipments of pineapple [*Ananas comosus* (L.) Merr.] (Bromeliaceae), avocado [*Persea americana* Mill.] (Lauraceae), banana [*Musa*] (Musaceae), and tomato [*Lycopersicon esculentum* Mill.] (Solanaceae) from Mexico (Blake, 1950), but these plants may not be hosts.

***Myochrous denticollis* (Say).** This species has been associated with *Zea mays* L. (Poaceae) and has sometimes been reported as a pest of this crop (Balsbaugh & Hays, 1972; Blake, 1950; Blatchley, 1924a; Carr, 1988; Douglass, 1929; Downie & Arnett, 1996; Essig, 1958; Folsom, 1936a; Forbes, 1905; Jolivet, 1987b; Jolivet & Hawkeswood, 1995; Kelly, 1915; Kyd & Thomas, 1954a; Neiswander, 1931; Riley *et al.*, 2002; Schultz, 1970; Smith, 1943; Takizawa, 2003; Thomas & Werner, 1981; Webster, 1888, 1900, 1901; Wilcox, 1979).

This beetle species has also been recorded from fern [Pteridophyta]; *Ambrosia psilostachya* DC., aster [*Aster* or a similar genus], *Carduus spinosissimus* Walt. [*Cirsium horridulum* Michx.], globe artichoke [*Cynara scolymus* L.], *Helenium tenuifolium* Nutt., cocklebur [*Xanthium*] (Asteraceae); turnip [*Brassica rapa* L.] (Brassicaceae); huckleberry blossoms [*Gaylussacia*] (Ericaceae); soybean [*Glycine max* (L.) Merr.], Japan clover [*Lespedeza striata* (Thunb.) Hook. & Arnold], alfalfa [*Medicago sativa* L.], yellow locust [*Robinia pseudoacacia* L.] (Fabaceae); okra [*Abelmoschus esculentus* (L.) Moench], cotton [*Gossypium*] (Malvaceae); redtop [*Agrostis alba* L.], *Alopecurus geniculatus* L., broomsedge [*Andropogon virginicus* L.], *Cynodon*, *Panicum pubescens* Lam. [*Dichantheium scoparium* (Lam.) Gould], crabgrass [*Digitaria*], *Phleum*, reed [*Phragmites* or a similar genus], bluegrass [*Poa*], *Saccharum officinarum* L., broomcorn [*Sorghum bicolor* (L.) Moench], wheat [*Triticum*] (Poaceae); and smartweed [*Polygonum*] (Polygonaceae) (Ashmead, 1894; Bickenstaff & Huggans, 1962; Blake, 1950; Blatchley, 1924a; Carr, 1988; Downie & Arnett, 1996; Essig, 1958; Felt, 1907; Folsom, 1936a; Forbes, 1905; Hayes, 1922; Hopkins, 1893; Kelly, 1915; Kirk, 1969; Rosewall, 1922; Rouse & Medvedev, 1972; Takizawa, 2003; Thomas & Werner, 1981; Webster, 1900, 1901; Wilcox, 1979).

Additionally, Burke (1963) reported a single specimen from *Solanum elaeagnifolium* Cav. (Solanaceae), but he stated that there was no observed evidence of feeding. Webster (1901) found larvae among roots of *Symphytotrichum lateriflorum* var. *hirsuticaule* (DC.) Nesom and *S. pilosum* (Willd.) Nesom (Asteraceae), and he believed them likely to be *M. denticollis*. However, he was successful in rearing only a single individual to adulthood, and it turned out to be a species of *Paria*. Beyond this, *M. denticollis* has been reported to hibernate in clumps of *Tillandsia usneoides* (L.) L. (Bromeliaceae); *Cyperus rotundus* L. (Cyperaceae); *Andropogon virginicus* and *Schizachyrium scoparium* (Michx.) Nash (Poaceae) (Kelly, 1915; Rosenfeld, 1911). However, these were not suspected of being food plants.

Records maintained by the USDA-ARS Grassland, Soil and Water Research Laboratory state that “*Myochrous* prob. *denticollis* (Say)” has been found in loose soil beneath the canopy of *Hymenoxys odorata* DC. (Asteraceae) in Crockett County, Texas (Thomas O. Robbins, pers. comm.). It is not known whether or not this plant is a host.

***Myochrous floridanus* Schaeffer.** This species has been found on *Taxodium distichum* (L.) L. C. Rich. (Taxodiaceae) (Blake, 1950).

***Myochrous intermedius* Blake.** This species has been collected from rosinweed [*Silphium*] (Asteraceae) (Blake, 1950). It has also been swept from grass [Poaceae] (Downie & Arnett, 1996), but sweeping records, without additional evidence, should not be interpreted as host associations.

***Myochrous longulus* LeConte.** This species has been reported from *Baccharis*, *Pluchea sericea* (Nutt.) Cov., *Xanthium strumarium* L. (Asteraceae); *Beta vulgaris* L., *Salicornia* (Chenopodiaceae); cantaloupe [*Cucumis melo* L.], muskmelon [*Cucumis melo*] (Cucurbitaceae); *Melilotus indica* (L.) All., *Medicago sativa* L., mesquite [*Prosopis*] (Fabaceae); *Gossypium*, *Malva rotundifolia* L., trailing-mallow [*Modiolastrum lateritium* (Hook.) Krapov.] (Malvaceae); and grape [*Vitis*] (Vitaceae) (Blake, 1950; Carr, 1988; Essig, 1915b, 1958; Hilgendorf & Goeden, 1982; Jaques, 1951; McGregor, 1917; Morrill, 1917; Riley *et al.*, 2002).

In previously unpublished field work, we have collected series of *M. longulus* from *Pluchea sericea* (Asteraceae) growing along the Colorado River in Arizona. Additionally, we have associated beetles with *Isocoma menziesii* (Hook. & Arn.) G. Nesom (Asteraceae) in California. Also, we have seen specimens labeled from California in association with *Gossypium hirsutum* L. (Malvaceae).

***Myochrous magnus* Blake.** This species feeds on *Salix* (Salicaceae) (Blake, 1950; Riley *et al.*, 2002). In previously unpublished investigations in southern Texas, we have collected numerous adults, on several occasions, from *S. exigua* Nutt. and *S. nigra* Marsh. This beetle species has also been found on elder [*Sambucus*] (Caprifoliaceae) (Blake, 1950), but this plant may not be a normal host.

***Myochrous pauxillus* Schaeffer.** Kumar *et al.* (1976) reported this species from blossoms of *Cirsium* (Asteraceae).

***Myochrous squamosus* LeConte.** This species has been reported destroying buds of pear [*Pyrus*] (Rosaceae) (Essig, 1958).

***Myochrous whitei* Blake.** This species has been reported from *Juncus* (Juncaceae); salt grass [*Distichlis spicata* (L.) Greene] and reed [*Phragmites* or a similar genus] (Poaceae) (Carr, 1988; Riley *et al.*, 2002). Additionally, Blake (1950) reported specimens swept from a plant that was probably Bermuda grass [*Cynodon dactylon* (L.) Pers.] (Poaceae).

***Neobrotica pluristicta* Fall.** This species has been collected from *Chilopsis linearis* (Cav.) Sweet (Bignoniaceae) (Abdullah & Qureshi, 1968; Blake, 1966a; Riley *et al.*, 2002). However, this occurrence may have been incidental. In previously unpublished field work in southern Arizona, we have collected a series (31 adults) from *Erythrina flabelliformis* Kearney (Fabaceae).

***Neochlamisus alni* (Brown).** This species is associated with *Alnus incana* (L.) Moench and *A. serrulata* (Ait.) Willd. (Betulaceae) (Brown, 1943, 1961, 1964; Jolivet, 1978; Jolivet & Hawkeswood, 1995; LeSage, 1984a; Raizenne, 1975).

***Neochlamisus assimilis* (Klug).** This species has been associated with *Rhododendron* (Ericaceae) (Brown, 1961; Clark, 2000; Downie & Arnett, 1996; Karren, 1972; Wilcox, 1979; Wray, 1967).

***Neochlamisus bebbianae* (Brown).** Beetles identified as this species, or as the synonym *Arthrochlamys tecta* Brown, have been reported from *Acer rubrum* L. (Aceraceae); *Alnus incana* (L.) Moench, *A. serrulata* (Ait.) Willd., *Betula nigra* L., *Corylus americana* Walt. (Betulaceae); *Quercus palustris* Muenchh. (Fagaceae); *Hamamelis virginiana* L. (Hamamelidaceae); *Iris versicolor* L. (Iridaceae); *Juglans cinerea* L., *J. rup-estris* Engelm. ex Torr. [*J. microcarpa* Berland.], *J. nigra* L. (Juglandaceae); *Salix bebbiana* Sarg., *S. discolor* Muhl., *S. humilis* Marsh. (Salicaceae); *Verbascum* (Scrophulariaceae); and *Ulmus* (Ulmaceae) (Adams & Funk, 1997; Brown, 1943, 1944, 1946, 1952, 1964; Downie & Arnett, 1996; Funk, 1998, 1999; Funk *et al.*, 2002; Jolivet, 1978; Jolivet & Hawkeswood, 1995; Karren, 1972; LeSage, 1984a; Olmstead, 1994; Raizenne, 1975; Riley & Enns, 1979; Wilcox, 1979). In laboratory tests, this species also has fed on *Corylus avellana* L. and *C. cornuta* Marsh. (Brown, 1964). As indicated by LeSage (1984a), the reports from *Alnus* were probably based on *Neochlamisus alni* (Brown) rather than on this species.

***Neochlamisus bimaculatus* Karren.** This species has been recorded from *Corylus americana* Walt. (Betulaceae), *Quercus* (Fagaceae), and *Rubus* (Rosaceae) (Clark, 2000; Downie & Arnett, 1996; Funk, 1999; Karren, 1972; Wilcox, 1979). In previously unpublished field work in Texas, we have collected adults from *Rubus flagellaris* Willd.

***Neochlamisus chamaedaphnes* (Brown).** The host is reported to be *Chamaedaphne calyculata* (L.) Moench (Ericaceae) (Brown, 1943, 1952, 1964; Clark, 2000; Funk, 1999; Jolivet, 1978; Jolivet & Hawkeswood, 1995; Karren, 1972; LeSage, 1984a; Proctor, 1946; Wilcox, 1979). Additionally, this species has been recorded from *Alnus rugosa* (Du Roi) Spreng. [*A. incana* ssp. *rugosa* (Du Roi) Clausen], *Corylus americana* Walt. (Betulaceae); *Vaccinium* (Ericaceae); *Potentilla fruticosa* L. and *Rubus occidentalis* L. (Rosaceae) (Brown, 1952; Clark, 2000; Downie & Arnett, 1996; Jolivet, 1978; Jolivet & Hawkeswood, 1995; Karren, 1972; Wilcox, 1979).

***Neochlamisus comptoniae* (Brown).** This species is associated with *Comptonia peregrina* (L.) Coult. (Myricaceae) (Anonymous, 1962g; Balsbaugh, 1988; Brown, 1943; Funk, 1999; Jolivet, 1978; Jolivet & Hawkeswood, 1995; Karren, 1972; LeSage, 1984a; Wilcox, 1979). It has also been reported from *Solidago* (Asteraceae), *Corylus* (Betulaceae), *Kalmia* (Ericaceae), and *Myrica* (Myricaceae) (Clark, 2000; Downie & Arnett, 1996; Karren, 1972; Wilcox, 1979). Additionally, Karren (1972) stated that *Corylus americana* Walt. is probably a host.

***Neochlamisus cribripennis* (Brown).** Hosts are species of *Vaccinium* (Ericaceae), including *V. angustifolium* Benth. (Ericaceae) (Arnett, 1985; Balsbaugh & Hays, 1972; Brown, 1943; Clark, 2000; Downie & Arnett, 1996; Ellis & LeRoux, 1964; Funk, 1999; Johnson & Lyon, 1991; Jolivet, 1978, 1988a; Jolivet & Hawkeswood, 1995; Jolivet & Verma, 2002; Karren, 1972; LeSage, 1984a; MacNay, 1962; Metcalf & Metcalf, 1993; Wilcox, 1954, 1979; Wood, 1966, 1970; Wood & Small, 1970). This beetle species has also been reported from

fir [*Abies*] (Pinaceae) (Dearborn & Donahue, 1993), but this occurrence was probably incidental.

***Neochlamisus eubati* (Brown).** Hosts are species of *Rubus* (Rosaceae), these insects having been recorded from *R. allegheniensis* Porter ex L. H. Bailey and *R. frondosus* Bigelow (Brown, 1943, 1952, 1964; Clark, 2000; Downie & Arnett, 1996; Funk, 1999; Jolivet, 1978; Jolivet & Hawkeswood, 1995; Karren, 1972; LeSage, 1984a; Riley & Enns, 1979; Wilcox, 1954, 1979). This beetle species has also been reported from *Aster*, *Solidago* (Asteraceae); *Alnus*, *Corylus americana* Walt. (Betulaceae); *Barbarea vulgaris* R. Br. (Brassicaceae); *Phleum pratense* L. (Poaceae); *Geum canadense* Jacq., *Potentilla fruticosa* L. (Rosaceae); and *Ulmus* (Ulmaceae) (Brown, 1946, 1952; Downie & Arnett, 1996; Jolivet, 1978; Jolivet & Hawkeswood, 1995; Karren, 1972; Raizenne, 1975; Riley & Enns, 1979; Wilcox, 1979).

***Neochlamisus fragariae* (Brown).** This species has been associated with *Fragaria* x *ananassa* Duchn. and *Potentilla simplex* Michx. (Rosaceae) (Andison, 1956; Brown, 1952; Downie & Arnett, 1996; Jolivet, 1978; Jolivet & Hawkeswood, 1995; Karren, 1972; LeSage, 1984a; Wilcox, 1979).

***Neochlamisus gibbosus* (Fabricius).** These insects, sometimes cited as the synonyms *Chlamisus plicatus* (Fabricius) and *Chlamys plicata* (Fabricius), have been recorded in association with species of *Rubus* (Rosaceae), including *R. argutus* Link., *R. villosus* Thunb. [*R. corchorifolius* L. f.], and *R. fruticosus* L. (Balsbaugh & Hays, 1972; Barwood & Davis, 1963b; Briggs, 1905; Brown, 1943, 1961; Chagnon, 1937; Chagnon & Robert, 1962; Dimmock, 1885; Downie & Arnett, 1996; Erber, 1988; Felt, 1907; Funk, 1999; Girault, 1911; Johnson, 1915; Jolivet, 1978; Jolivet & Hawkeswood, 1995; Julien & Griffiths, 1998; Karren, 1972; Kirk, 1969, 1970; LeSage, 1984a; Lugger, 1899; Packard, 1890; Riley, 1874c; Riley & Enns, 1979; Schaeffer, 1928a; Smith, 1910, 1910a; Webster, 1893a; Wilcox, 1954, 1979). Wallace (1970) reported beetles from “*Rumex* (Blackberry).” Without doubt *Rumex* (Polygonaceae) was an error, *Rubus* being intended. In previously unpublished field work, we have collected adults of *N. gibbosus* from *Rubus trivialis* Michx. in Texas.

This beetle species has also been reported from *Acer pseudoplatanus* L. (Aceraceae); goldenrod [*Solidago*] (Asteraceae); *Alnus*, white birch [*Betula papyrifera* Marsh.], *Betula alba* L. [*B. pubescens* Ehrh.], hazel [*Corylus*] (Betulaceae); *Tillandsia usneoides* (L.) L. (Bromeliaceae); *Gaylussacia baccata* (Wang.) K. Koch, *Vaccinium angustifolium* Benth., low whortleberry bush [*V. corymbosum* L. or *V. myrtillus* L.], *V. myrtilloides* Michx. (Ericaceae); *Amorpha canescens* Pursh (Fabaceae); chinquapin [*Castanea*], *Quercus* (Fagaceae); *Comptonia asplenifolia* (L.) L’Her. ex Aiton [*C. peregrina* (L.) Coult.] (Myricaceae); *Platanus occidentalis* L. (Platanaceae); *Phleum pratense* L., *Triticum aestivum* L. (Poaceae); plum [*Prunus*] (Rosaceae); *Salix* (Salicaceae); and *Larrea* (Zygophyllaceae) (Andrews, 1923; Barwood & Davis, 1963b; Beutenmüller, 1890a; Blatchley, 1924a; Briggs, 1905; Bruner, 1890; Burke *et al.*, 1974; Clark, 2000; Cockerell, 1902; Dimmock, 1885; Downie & Arnett, 1996; Dozier, 1918, 1920; Fall & Cockerell, 1907; Felt, 1907; Hamilton, 1895; Harris, 1841, 1863; Herrick, 1935; Hopkins, 1893; Jolivet, 1978; Jolivet & Hawkeswood, 1995; Karren, 1972; Marlatt, 1888; Packard, 1888, 1890; Phipps, 1930; Popenoe & Marlatt, 1889; Riley, 1874c; Rosenfeld, 1911; Scudder, 1891; Smith, 1900, 1910a; Webster, 1893a; Wickham, 1896a; Wilcox, 1979). However, many of these associations predate modern taxonomic revision and were likely based on other species of *Neochlamisus*. Moreover, some of the occurrences were probably incidental.

Wray & Brimley (1943) reported *N. gibbosus* from *Sarracenia flava* L. (Sarraceniaceae). However, this was probably an instance in which the insects were prey rather than herbivores.

***Neochlamisus insularis* (Schaeffer).** This species has been recorded from *Barleria cristata* L. (Acanthaceae), *Quercus* (Fagaceae), *Myrica cerifera* L. (Myricaceae), and *Salix interior* Rowlee [*S. exigua* ssp. *interior* (Rowlee) Cronquist] (Salicaceae) (Funk, 1999; Karren, 1972).

***Neochlamisus moestificus* (Lacordaire).** This species, including populations in Mexico, has been reported from *Eriogonum microthecum* Nutt., *E. racemosum* Nutt., *E. wrightii* J. Torr. ex Benth., *Polygonum* (Polygonaceae); *Ceanothus buxifolius* Willd. ex Schult. f., *C. fendleri* A. Gray (Rhamnaceae); and *Larrea divaricata* Cav. (Zygophyllaceae) (Clark, 2000; Downie & Arnett, 1996; Funk, 1999; Karren, 1972; Moldenke, 1971; Wilcox, 1979). In previously unpublished investigations, we have seen *N. moestificus* labeled from Baja California in association with *Prosopis* (Fabaceae).

***Neochlamisus platani* (Brown).** This species feeds on *Platanus* x *acerifolia* (Ait.) Willd. and *P. occidentalis* L. (Platanaceae) (Baker, 1972; Brown, 1952; Clark, 2000; Downie & Arnett, 1996; Funk, 1999; Hyche, 1996; Johnson & Lyon, 1991; Jolivet, 1978; Jolivet & Hawkeswood, 1995; Karren, 1972; LeSage, 1984a; Neal, 1989; Olmstead, 1994; Riley & Enns, 1979; Thomas & Solomon, 1986; Wilcox, 1954, 1979). It has also been reported from *Betula nigra* L., *Corylus americana* Walt. (Betulaceae); *Trifolium pratense* L. (Fabaceae); wild rose [*Rosa*] (Rosaceae); and *Ulmus* (Ulmaceae) (Downie & Arnett, 1996; Hyche, 1996; Karren, 1972; Lawson, 1991; Neal, 1989; Wilcox, 1979).

***Neochlamisus scabripennis* (Schaeffer).** This species has been associated with *Larrea divaricata* Cav. and *L. tridentata* (Sesse & Moçño ex DC.) Coville (Zygophyllaceae) (Funk, 1999; Karren, 1972; Schaeffer, 1926). Beyond this, Karren (1972) reported material from grease-wood, which he interpreted as probably

Sarcobatus vermiculatus (Hook.) J. Torr. (Chenopodiaceae), although he noted that *Larrea* is also sometimes called greasewood.

***Neochlamisus subelatus* (Schaeffer).** This species has been associated with *Larrea divaricata* Cav. and *L. tridentata* (Sesse & Moçino ex DC.) Coville (Zygophyllaceae) (Carr, 1988; Funk, 1999; Karren, 1972; Schaeffer, 1926).

***Neochlamisus tuberculatus* (Klug).** This species has been reported from dwarf huckleberry [*Gaylussa-cia dumosa* (Andr.) Torr. & Gray], *Vaccinium* (Ericaceae); and *Quercus* (Fagaceae) (Blatchley, 1924a; Clark, 2000; Downie & Arnett, 1996; Funk, 1999; Karren, 1972; Kirk, 1969; Riley & Enns, 1982; Wilcox, 1979).

***Neochlamisus velutinus* Karren.** This species is apparently associated with Fabaceae, beetles having been collected from *Acacia constricta* Benth. ex A. Gray, alfalfa [*Medicago sativa* L.], and *Prosopis glandulosa* J. Torr. (Funk, 1999; Karren, 1972).

A Mexican beetle species, *Neochlamisus memnonius* (Lacordaire), has been reported from the United States in association with *Prosopis glandulosa* J. Torr., as well as with *Larrea divaricata* Cav. (Zygophyllaceae) (Moldenke, 1971; Moore, 1937; Tanner & Tanner, 1974; Townsend, 1902). Such reports were probably based on *N. velutinus* or a similar species.

? *Neochlamisus* spp. *Chlamys tuberosa* Knoch, a name of uncertain identity, was described based on material associated with chinquapin [interpreted by Brown (1943) and Karren (1972) as probably *Castanea pumila* P. Mill.] (Fagaceae). Additionally, *C. tuberosa* has been recorded from *Betula alba* L. [*B. pubescens* Ehrh.] (Betulaceae), *Amorpha canescens* Pursh (Fabaceae), *Quercus* (Fagaceae), and *Platanus occidentalis* L. (Platanaceae) (Jolivet, 1978; Jolivet & Hawkeswood, 1975).

Another name of uncertain identity, *Chlamys polycocca* Lacordaire, has been recorded in association with species of *Rubus* (Rosaceae), including *R. villosus* var. *humifusus* Torr. & Gray [*R. corchorifolius* L. f.] (Fletcher, 1886; Harrington, 1894). Additionally, Wickham (1898) reported *C. polycocca* from “in the oak scrub” [*Quercus*] (Fagaceae).

***Neocrepidodera pallida* (Fall).** Hatch (1935) reported collecting a related species, *Neocrepidodera robusta* (LeConte), by sweeping marsh grass [*Spartina*] (Poaceae). According to Hatch (1971), this record was actually based on misidentified *N. pallida*. In any case, sweeping records should not necessarily be interpreted as host associations.

***Neocrepidodera robusta* (LeConte).** Hatch (1935) reported collecting this species by sweeping marsh grass [*Spartina*] (Poaceae). However, according to Hatch (1971), this record was based on misidentified *N. pallida* (Fall).

***Neogalerucella californiensis* (Linnaeus).** The association of this species with *Lythrum salicaria* L. (Lythraceae) is well documented (Abdullah & Qureshi, 1968; Anonymous, 2001a; Batra *et al.*, 1986; Blossey, 1995a, 1995b; Blossey & Hunt, 1999; Blossey & Schat, 1997; Blossey *et al.*, 1994; Clark, 2000; Cronin *et al.*, 1999; Gideonse & Hayden, 1997; Hight *et al.*, 1995; Jolivet, 2001, 2003; Jolivet & Verma, 2002; Julien & Griffiths, 1998; Katovich *et al.*, 1999, 2001; Kaufman & Landis, 2000; Kok *et al.*, 1992; Lopatin, 1984; Malecki *et al.*, 1993; Manguin *et al.*, 1993; McAvoy *et al.*, 1997; Mohr, 1966; Paterson, 1931; Riley *et al.*, 2002; Steinhausen, 1996; Vail *et al.*, 2001; Verdyck, 1998; White, 1996b).

After complete defoliation of *L. salicaria*, *N. californiensis* has also been observed to feed on *Myrica pensylvanica* Mirb. (Myricaceae), *Rosa multiflora* Thunb. ex Murr. (Rosaceae), and *Salix discolor* Muhl. (Salicaceae) (Kaufman & Landis, 2000). Additionally, Kaufman & Landis (2000) reported a case in which unidentified beetles fed on *Potentilla anserina* L. (Rosaceae) after *L. salicaria* had been defoliated. They suggested that the beetle species involved was either *N. californiensis* or *N. pusilla* (Duftschmid), or both of them. However, they also noted that it may have been the native species *N. quebecensis* (Brown).

In laboratory and field experiments, *N. californiensis* (in some instances both adults and larvae) was found to at least nibble on *Vernonia fasciculata* Michx. (Asteraceae); *Glycine max* (L.) Merr. (Fabaceae); *Ammannia auriculata* Willd., *A. coccinea* Rottb., *A. latifolia* L., *Cuphea lutea* Rose, *Decodon verticillatus* (L.) Ell., *Lagerstroemia indica* L., *Lythrum alatum* Pursh, *L. californicum* J. Torr. & A. Gray, *L. hyssopifolia* L., *L. lineare* L., *L. virgatum* L., *Rotula ramosior* (L.) Koehne (Lythraceae); *Chamerion angustifolium* (L.) Holub, *Gaura biennis* L. (Onagraceae); *Rumex verticillatus* L. (Polygonaceae); *Alchemilla mollis* (Buser) Rothman, *Filipendula rubra* (Hill) Robinson, *Fragaria x ananassa* Duchn., *Rosa setigera* Michx., *Rubus idaeus* L. (Rosaceae); and *Salix interior* Rowlee [*S. exigua* ssp. *interior* (Rowlee) Cronquist] (Salicaceae) (Blossey *et al.*, 1994; Kaufman & Landis, 2000; Kok *et al.*, 1992). However, most of these plants were found to be far less suitable than *Lythrum salicaria*, and they are probably not significant hosts in nature.

Fabricius (1792, 1801) wrote, “Habitat in Europae Salice.” However, this association with *Salix* (Salicaceae) was likely incidental. “*Galeruca Californiensis*, Linnaeus” has been reported from North America in association with *Ulmus* (Fitch, 1859a; Harris, 1841, 1863; Packard, 1890; Perkins, 1890). These records were undoubtedly based on misidentified *Xanthogaleruca luteola* (Müller).

***Neogalerucella pusilla* (Duftschmid).** This species, including Palearctic populations, feeds on *Lythrum salicaria* L. (Lythraceae) (Batra *et al.*, 1986; Blossey, 1995a, 1995b; Blossey & Hunt, 1999; Blossey *et al.*, 1994; Campobasso *et al.*, 1999; Clark, 2000; Cronin *et al.*, 1999; Hight *et al.*, 1995; Jolivet, 2001, 2003; Jolivet & Verma, 2002; Julien & Griffiths, 1998; Katovich *et al.*, 1999, 2001; Kok *et al.*, 1992; Malecki *et al.*, 1993; Manguin *et al.*, 1993; McAvoy *et al.*, 1997; Mohr, 1966; Riley *et al.*, 2002; Steinhausen, 1996; Vail *et al.*, 2001; Verdyck, 1998; Vig, 1996; White, 1996b). In the Old World, it has also been recorded from *Mentha* and *Stachys palustris* L. (Lamiaceae) and from *Veronica* (Scrophulariaceae) (Aslan & Warchalowski, 1998; Vig, 1992a, 1996), but these are probably not normal hosts.

Kaufman & Landis (2000) reported a case in Michigan in which unidentified beetles fed on *Potentilla anserina* L. (Rosaceae) after *L. salicaria* had been defoliated. They suggested that the beetle species involved was either *N. pusilla* or *N. californiensis* (Linnaeus), or both of them. However, they also noted that it may have been the native species *N. quebecensis* (Brown).

In laboratory and field experiments, *N. pusilla* (in some instances both adults and larvae) was found to at least nibble on *Ammannia auriculata* Willd., *A. coccinea* Rottb., *A. latifolia* L., *Cuphea lutea* Rose, *Decodon verticillatus* (L.) Ell., *Lagerstroemia indica* Alt., *Lythrum alatum* Pursh, *L. californicum* J. Torr. & A. Gray, *L. hyssopifolia* L., *L. lineare* L., *L. virgatum* L., *Rotala ramosior* (L.) Koehne (Lythraceae); *Chamerion angustifolium* (L.) Holub (Onagraceae); and *Sparganium eurycarpum* Engelm. (Sparganiaceae) (Blossey *et al.*, 1994; Kaufman & Landis, 2000; Kok *et al.*, 1992). However, most of these plants were found to be far less suitable than *L. salicaria*, and they are probably not significant hosts in nature.

***Neogalerucella quebecensis* (Brown).** The food plant of this species is *Potentilla palustris* (L.) Scop. (Rosaceae) (Brown, 1952; Downie & Arnett, 1996; Kaufman & Landis, 2000; Manguin *et al.*, 1993; Wilcox, 1965, 1979). Specimens have also been collected from *Cornus* (Cornaceae) (Brown, 1938; Wilcox, 1965, 1979), but it is doubtful that this is a food plant.

Kaufman & Landis (2000) reported a case in which unidentified beetles fed on *Potentilla anserina* L. They suggested that the beetle species involved was either *Neogalerucella californiensis* (Linnaeus) or *N. pusilla* (Duftschmid), or both of them. However, they also noted that it may have been *N. quebecensis*.

***Neogalerucella stefanssoni* (Brown).** The host of this species is *Rubus chamaemorus* L. (Rosaceae) (Brown, 1952; Kaufman & Landis, 2000; Manguin *et al.*, 1993; Silfverberg, 1994; Wilcox, 1965).

***Neohaemonia flagellata* Askevold.** Askevold (1988) associated this species with *Potamogeton* (Potamogetonaceae). He also reported specimens labeled from a floating grass leaf (Poaceae) and *Scirpus* (Cyperaceae), but he discounted these associations, stating that specimens will temporarily light on many kinds of aquatic plants, including *Nuphar* (Nymphaeaceae), *Polygonum* (Polygonaceae), and *Sparganium* (Sparganiaceae). Downie & Arnett (1996) also reported that this beetle species is associated with *Potamogeton*.

***Neohaemonia melsheimeri* (Lacordaire).** This species has been reported from *Lemna* (Lemnaceae), *Potamogeton* (Potamogetonaceae), and *Sparganium* (Sparganiaceae) (Askevold, 1988; Clark, 2000; Downie & Arnett, 1996; Lays, 2002). However, Askevold (1988) apparently discounted records from *Lemna* and *Sparganium*, indicating that the host is *Potamogeton*.

***Neohaemonia minnesotensis* Askevold.** Downie & Arnett (1996) stated that the host is probably *Potamogeton* (Potamogetonaceae).

***Neohaemonia nigricornis* (Kirby).** In his taxonomic revision, Askevold (1988) reported this species from *Potamogeton* (Potamogetonaceae). Other workers have also recorded *N. nigricornis* from *Potamogeton*, specifically from *P. illinoensis* Morong, *P. natans* L., and *P. richardsonii* (A. Benn.) Rydb. (Berg, 1949; Blatchley, 1910; Chagnon, 1937; Chagnon & Robert, 1962; Clark, 2000; Downie & Arnett, 1996; Harrington, 1883; Hoffman, 1940a, 1940c; La Rivers, 1951; Lays, 2001; LeConte & Horn, 1883; MacGillivray, 1903; Pennak, 1947, 1953; Wickham, 1896a). However, most of these associations predate the taxonomic revision of Askevold (1988), and many of them may have been based on species of *Neohaemonia* other than true *N. nigricornis*.

Beyond *Potamogeton*, this beetle species has been reported from *Sagittaria* (Alismataceae) and *Nymphaea odorata* Ait. (Nymphaeaceae) (Clark, 2000; Dearborn & Donahue, 1993; Hoffman, 1940c; Lays, 2001). However, these occurrences were probably incidental. Moreover, some of them may have been based on species of *Neohaemonia* other than true *N. nigricornis*.

***Neolema cordata* White.** These insects are associated with species of *Commelina* (Commelinaceae), including *C. diffusa* Burm. f. and *C. virginica* L. [*C. erecta* L.] (Downie & Arnett, 1996; White, 1993). They have also been reported from ragweed [*Ambrosia*], *Helianthus* (Asteraceae); *Carex* (Cyperaceae); *Desmodium*, *Pisum* (Fabaceae); reed [*Phragmites* or a similar genus] (Poaceae); and *Rubus* (Rosaceae) (Downie & Arnett, 1996; White, 1993). However, these occurrences were likely adventitious.

***Neolema dorsalis* (Olivier).** In Texas, this species has been found in association with *Commelina elegans* H. B. K. [*C. erecta* L.] (Commelinaceae) (Riley *et al.*, 2001). In Latin America, it has been reported

from *Daucus carota* L. (Apiaceae), *Elaeis* (Arecaceae), *Commelina virginica* L. [*C. erecta*] (Commelinaceae), *Sida hastata* (Cav.) Willd. (Malvaceae), *Oryza* (Poaceae), *Melicoccus bijugatus* Jacq. (Sapindaceae), and *Theobroma* (Sterculiaceae) (Frers, 1922; Jolivet & Hawkeswood, 1995; Maes & Staines, 1991; Martorell, 1976; Sengupta, 1957; Virkki & Santiago-Blay, 1997, 1998; Wolcott, 1936). All associations with families other than Commelinaceae were probably incidental.

***Neolema ephippium* (Lacordaire).** This species has been recorded from *Zebrina pendula* Schnizl. (Commelinaceae) (White, 1993). It has been collected from flowers of thistle [likely *Carduus* or *Cirsium*] (Asteraceae) and from basswood [*Tilia*] (Tiliaceae) (Blatchley, 1924a; White, 1993), but these plants are probably not true hosts.

***Neolema jacobina* (Linell).** This species has been associated with *Commelina communis* L. and *C. erecta* L. (Commelinaceae) (Balsbaugh & Hays, 1972; Kaufmann, 1967; Schmitt, 1988; White, 1993). In previously unpublished investigations in southern Texas, we have collected adults from *C. erecta* var. *angustifolia* (Michx.) Fern.

***Neolema ovalis* White.** This species is associated with Commelinaceae, having been reported from *Commelina communis* L. and wandering jew [*Zebrina pendula* Schnizl.] (Clark, 2000; Downie & Arnett, 1996; White, 1993). In previously unpublished investigations in western Texas, we have collected adults from *Commelina dianthifolia* Delile. In Missouri, we have collected adults from *C. diffusa* Burm. f. and from a plant tentatively identified as *C. erecta* L.

Beyond Commelinaceae, *N. ovalis* has also been reported from watercress [*Rorippa nasturtium-aquaticum* (L.) Hayek.] (Brassicaceae) (White, 1993). However, this occurrence was probably adventitious.

***Neolema quadriguttata* White.** This species is associated with Commelinaceae. In previously unpublished investigations, we have collected adults from *Commelina communis* L. in Missouri, and from *C. erecta* L. in Texas.

***Neolema sexpunctata* (Olivier).** This species is associated with Commelinaceae, having been recorded from *Commelina communis* L., *C. erecta* L., *Tradescantia virginiana* L., and wandering jew [*Zebrina pendula* Schnizl.] (Balsbaugh & Hays, 1972; Clark, 2000; Downie & Arnett, 1996; Green, 1939; Kirk, 1970; Morton & Vencel, 1998; Müller & Hilker, 2003; Peterson, 1960; Sailsbury, 1943; Schmitt, 1988; Vencel & Morton, 1999; White, 1993; Wilcox, 1954, 1979). In previously unpublished field work in Missouri, we have found adults on *Commelina diffusa* Burm. f.

This beetle species has also been reported from *Philodendron panduraeforme* Kunth (Araceae); dog fennel [likely *Anthemis cotula* L. or *Eupatorium capillifolium* (Lam.) Small], *Solidago* (Asteraceae); soybean [*Glycine max* (L.) Merr.], snapbean [*Phaseolus vulgaris* L.], *Sesbania macrocarpa* Muhl. ex Raf. (Fabaceae); avocado [*Persea americana* Mill.] (Lauraceae); cotton [*Gossypium*] (Malvaceae); *Festuca* (Poaceae); *Polygonum* (Polygonaceae); and *Vitis* (Vitaceae) (Ashmead, 1894; Blatchley, 1924a; Deitz *et al.*, 1976; Malkin, 1941, 1945; McGiffin & Neunzig, 1985; White, 1993). However, these occurrences were almost certainly incidental.

Wray & Brimley (1943) reported beetles from *Sarracenia flava* L. (Sarraceniaceae). However, this was probably an instance in which the insects were prey rather than herbivores.

Under experimental conditions, larvae of *N. sexpunctata* have been reared on lettuce [*Lactuca*] (Asteraceae) (Morton & Vencel, 1998). Even so, this plant is not a natural host.

***Neolochmaea oblitterata* (Olivier).** In his recent generic revision, Moura (1998) used the name *N. dilatipennis* (Jacoby) for this widespread Neotropical species, and he treated *Lochmaea tropica* Jacoby as a junior synonym. He did not deal with the much older name *Galeruca oblitterata* Olivier, apparently not recognizing that it rightly belongs in the genus *Neolochmaea*. Takizawa (2003) did not mention the name *N. dilatipennis*, but he was probably correct in placing *G. oblitterata* in the genus *Neolochmaea* and recognizing its synonymy with *L. tropica*.

This species, including populations in Latin America, has been associated with *Borreria terminalis* Small, *B. verticillata* (L.) G. Meyer, *Diodia saponariifolia* (Cham. & Schltdl.) Schum., and *D. sarmentosa* Sw. (Rubiaceae) (Bechyné, 1997b; Futuyma & McCafferty, 1990; Jolivet, 2001, 2003; Jolivet & Hawkeswood, 1995; LeSage, 1986b; Moura, 1998; Peck & Thomas, 1998; Riley *et al.*, 2002; Virkki & Santiago-Blay, 1997, 1998; White, 1979a).

This beetle species has also been collected from *Oryza sativa* L. (Poaceae) and *Capsicum frutescens* var. *grossum* L. H. Bailey [*C. annuum* L.] (Solanaceae) (Bechyné, 1997b). Additionally, Wolcott (1951) reported Puerto Rican beetles, “presumed to be” this species, from *Lantana camara* L. (Verbenaceae). These occurrences may have been incidental.

***Nesaecrepida asphaltina* (Suffrian).** This species feeds on *Caperonia palustris* (L.) St.-Hil. (Euphorbiaceae) (Riley *et al.*, 2002). In the West Indies, *N. asphaltina* has also been recorded from *Ipomoea batatas* (L.) Lam. (Convolvulaceae), *Cucurbita moschata* (Duchn. ex Lam.) Duchn. ex Poir. (Cucurbitaceae), and

Capsicum frutescens L. [*C. annuum* L.] (Solanaceae) (Bruner *et al.*, 1975; Martorell, 1976; Wolcott, 1936, 1951). However, these plants are almost certainly not preferred hosts.

Beyond this, the synonym *Syphrea nigrifolia* (Linell) has been reported feeding on *Croton glandulosus* L. (Euphorbiaceae) (Flowers *et al.*, 1994). However, our examination of beetle vouchers reveals that this record was based on misidentification of *Syphrea nana* (Crotch). Peck & Thomas (1998) also listed *S. nigrifolia* from *Croton*, but this was probably based on the previously published misidentification.

***Nesaecrepida infusata* (Schaeffer).** This species has been reported from *Mimosa* and *Neptunia* (Fabaceae) (Riley *et al.*, 2002). In Texas, we have personally found adults on *Mimosa pigra* L. and *M. strigillosa* J. Torr. & A. Gray.

***Octotoma championi* Baly.** Larvae and adults of this species, including populations in Latin America, feed on *Lantana camara* L., *L. hispida* Kunth, and *L. trifolia* L. (Verbenaceae) (Diatloff, 1977; Harley, 1969; Julien & Griffiths, 1998; Maes & Staines, 1991; Maulik, 1937; Riley & Balsbaugh, 1988; Staines, 1989, 1996). Minor adult feeding has also been reported from *Mentha* and *Origanum* (Lamiaceae) and from *Sesamum* (Pedaliaceae) (Diatloff, 1977; Maes & Staines, 1991; Staines, 1989, 1996), but these plants are probably not normal hosts.

***Octotoma marginicollis* Horn.** Larvae are reported to mine leaves of *Perezia thurberi* A. Gray (Asteraceae) (Brisley, 1925; Jones & Brisley, 1925; Staines, 1989). Adults are reported to feed on this same plant, as well as on *Fraxinus attenuata* Jones (Oleaceae) (Brisley, 1925; Chittenden, 1902b, 1904b; Frost, 1924; Jones & Brisley, 1925; Staines, 1989). Additionally, Leech & Green (1955) reported this beetle species to be very numerous on *Monarda menthifolia* Graham (Lamiaceae).

While conducting a survey of the insects associated with *Baccharis bigelovii* A. Gray (Asteraceae), Boldt & Robbins (1994) found this beetle species to be present, although rarely so, on foliage of this plant. This association may have been incidental. However, records maintained by the USDA-ARS Grassland, Soil and Water Research Laboratory state that adults have been found feeding on foliage of *B. bigelovii* and *B. salicina* J. Torr. & A. Gray (Thomas O. Robbins, pers. comm.).

In previously unpublished investigations, we have found adults on *Fraxinus greggii* Gray (Oleaceae) in western Texas and on *F. velutina* Torr. in Arizona. We have also seen specimens labeled from Arizona in association with *Brickellia floribunda* A. Gray (Asteraceae).

***Octotoma plicatula* (Fabricius).** Both adults and larvae are associated with *Campsis radicans* (L.) Seem. ex Bureau (Bignoniaceae) (Blatchley, 1910; Brimley, 1938; Chittenden, 1902b, 1904b; Clark, 2000; Downie & Arnett, 1996; Dury, 1902; Ford & Cavey, 1985; Frost, 1924; Harley, 1969; Maulik, 1937; Needham *et al.*, 1928; Riley & Balsbaugh, 1988; Riley & Enns, 1979; Schwarz, 1890; Staines, 1989; Ulke, 1903; Wilcox, 1954, 1979). In at least the adult stage, this beetle species is also associated with Oleaceae, including *Chionanthus virginicus* L., *Fraxinus americana* L., *F. pennsylvanica* Marsh., and *Ligustrum vulgare* L. (Blatchley, 1924a, 1930; Clark, 2000; Dozier, 1918, 1920; Ford & Cavey, 1985; Kirk, 1969; Riley & Enns, 1979; Staines, 1989). In previously unpublished field work in Missouri, we have found numerous adults on insect-damaged foliage of *Fraxinus quadrangulata* Michx.

Kirk (1969) reported this species feeding on laurel [likely *Kalmia*] (Ericaceae). However, this plant is not a normal host. Beetles have also been reported from *Daucus carota* L. (Apiaceae), alder [*Alnus*] (Betulaceae), *Lepedeza* (Fabaceae), *Aesculus* (Hippocastanaceae), and magnolia [*Magnolia*] (Magnoliaceae) (Balsbaugh & Hays, 1972; Blatchley, 1910, 1924a, 1930; Downie & Arnett, 1996; Dozier, 1918, 1920; Frost, 1924; Lago & Mann, 1987; Peck & Thomas, 1998; Staines, 1989; Wilcox, 1954, 1979). In spite of some mention of feeding, these occurrences were likely incidental.

Beyond these records, various authors have reported *O. plicatula* (or beetles stated to be similar to *O. plicatula*) in association with *Lantana camara* L. (Verbenaceae) (Balsbaugh & Hays, 1972; Harley, 1969; Holloway, 1964; Huffaker, 1959; Krauss, 1962, 1964). As noted by Julien & Griffiths (1998), such reports are based on species other than true *O. plicatula*.

***Octotoma scabripennis* Guérin-Méneville.** This Mexican and Central American species, intentionally introduced into Hawaii, feeds on *Lantana camara* L. (Verbenaceae) (Clausen, 1978; Gutierrez & Forno, 1989; Harley, 1969; Hill & Hulley, 1995; Huffaker, 1959; Jolivet, 1989c, 2001; Jolivet & Hawkeswood, 1995; Julien & Griffiths, 1998; Krauss, 1962; Maes & Staines, 1991; Staines, 1989, 1996). In Latin America, it has also been associated with *Lantana glandulosissima* Hayek and *Lippia umbellata* Cav. (Verbenaceae) (Harley, 1969; Krauss, 1964; Moldenke, 1971).

Additionally, this beetle species has been reported from *Eupatorium collinum* DC. (Asteraceae); *Stizolobium* [*Mucuna*], *Phaseolus*, *Vigna* (Fabaceae); *Quercus atriglandis* Warb. (Fagaceae); *Mentha*, *Salvia* (Lamiaceae); and *Sesamum* (Pedaliaceae) (Harley, 1966b; Maes & Staines, 1991; Moldenke, 1971; Staines, 1996). Harley (1966a) recorded adults in Hawaii feeding on a species of *Origanum* (Lamiaceae), thought to be possibly *O. vulgare* L. Some of these non-verbenaceous associations were likely incidental.

Under experimental conditions, at least light adult feeding occurred on *Mucuna aterrima* (Piper & Tracy) Holland, *Phaseolus vulgaris* L., *Vigna unguiculata* Clav. (Fabaceae); *Mentha spicata* L., *Origanum* sp. probably *vulgare*, *Salvia occidentalis* Sw. (Lamiaceae); *Sesamum indicum* L. (Pedaliaceae); *Clerodendrum*, *Duranta*, and *Tectona grandis* L. f. (Verbenaceae) (Gutierrez & Forno, 1989; Harley, 1969; Staines, 1989). However, none of these plants were thought to be a suitable host under normal conditions.

***Odontota arizonica* (Uhmann).** This species is reported to feed on *Glycine soja* Hort. [*G. max* (L.) Merr.] (Fabaceae) (Butte, 1968c). In previously unpublished field work in southern Arizona, we have collected adults from *Amorpha fruticosa* L. (Fabaceae).

***Odontota dorsalis* (Thunberg).** This species associated with Fabaceae, having been reported from acacia [*Acacia*], *Amorpha fruticosa* L., peanut [*Arachis hypogaea* L.], *Falcata comosa* (L.) Kuntze [*Amphicar-paea bracteata* (L.) Fern.], *Cercis canadensis* L., *Cladrastis lutea* (Michx.) K. Koch, *Desmodium*, honeylocust [*Gleditsia triacanthos* L.], *Glycine max* (L.) Merr., *Laburnum anagyroides* Medik., *L. x watereri* Dippel, alfalfa [*Medicago sativa* L.], lima bean [*Phaseolus lunatus* L.], bean [likely *Phaseolus vulgaris* L.], *Pueraria montana* (Lour.) Merr., *Robinia hispida* L., *R. pseudoacacia* L., *Sophora japonica* L., red clover [*Trifolium pratense* L.], and *Wisteria* (Anderson, 1960; Anonymous, 1960h, 1960u, 1979, 1985, 1989; Athey & Connor, 1989; Baker, 1972; Balduf, 1923; Balsbaugh & Hays, 1972; Beutenmüller, 1890a; Blair & Holdsworth, 1960; Bland & Jaques, 1978; Blatchley, 1896, 1910; Borror & White, 1970; Borror *et al.*, 1989; Bray & Triplehorn, 1953; Brimley, 1938; Britton & Zappe, 1927; Butte, 1968c; Cannon, 1970; Chittenden, 1897b, 1902b, 1904b; Clark, 2000; Cole, 1968; Cornell, 1990; Craighead & Middleton, 1930; Culberson, 1914; Davidson & Lyon, 1987; Davis, 1942; Dearborn & Donahue, 1993; Dillon & Dillon, 1961; Doane *et al.*, 1936; Dominick, 1938; Downie & Arnett, 1996; Edwards, 1949; Felt, 1902a, 1905, 1912b, 1916, 1930; Fitch, 1859a; Floate & Whitham, 1994; Ford & Cavey, 1985; Fritz, 1983a, 1983b; Frost, 1924, 1942; Garman, 1916; Hale & Grant, 2003; Hanson & Walker, 1996; Hargrove, 1986; Harris, 1835, 1841; Haviland, 1943; Herrick, 1935; Hespenheide, 1991, 1996; Hicks & Mudrick, 1994; Hoffard & Anderson, 1982; Holdsworth & Blair, 1961; Hopkins, 1891a, 1891c, 1893, 1896, 1897a, 1897b; Houser, 1908, 1913, 1918; Jaques, 1951; Johnson, 1927; Johnson & Lyon, 1991; Jolivet, 1989c; Kerr, 1951, 1959; Kirk, 1970; Kirkendall, 1984; Kogan & Kogan, 1979; Kotinsky, 1921; Lawson, 1991; Lee, 1949; Lugger, 1899; Lyon & Custer, 1963; MacAloney, 1950; MacAloney & Ewan, 1964; Marshall, 1956; Maulik, 1937; McPherson & Ravlin, 1983; McQueen, 1966b; Milliron, 1958; Mullins, 1976a; Needham *et al.*, 1928; Packard, 1888, 1890; Peterson, 1960; Pirone, 1970; Poos, 1940; Proctor, 1938, 1946; Raizenne, 1975; Riley & Enns, 1979; Riley & Fuller, 1880a; Riley & Howard, 1890d; Rouse & Medvedev, 1972; Schwarz, 1891; Shenefelt & Benjamin, 1955; Smith, 1900, 1910a; Strauss, 1988; Symons & Cory, 1913; Ulke, 1903; Walker, 1979b; Walker & Lyon, 1963; Walsh & Riley, 1868b; Weaver & Dorsey, 1965, 1967; Weiss, 1919b; Westcott, 1946; Wheeler, 1980, 1987; Wheeler & Snook, 1986; Wheeler & Stimmel, 1983; White, 1983; Wilcox, 1954, 1979; Williams, 1988b, 1989d; Wilson *et al.*, 1982). *Robinia pseudoacacia* is an especially favored host.

Chambers (1880) reported *Hispa suturalis* Fabricius, a synonym of *Sumitrosis inaequalis* (Weber), also from *Robinia pseudoacacia*. This was probably based on confusion with the homonym *H. suturalis* Harris, a synonym of *O. dorsalis*.

Beyond Fabaceae, this beetle species has been recorded from red maple [*Acer rubrum* L.], *Acer saccharum* Marsh. (Aceraceae); *Rhus typhina* L. (Anacardiaceae); *Asclepias syriaca* L. (Asclepiadaceae); *Betula* (Betulaceae); *Cornus* (Cornaceae); persimmon [*Diospyros*] (Ebenaceae); rhododendron [*Rhododendron*] (Ericaceae); chestnut [*Castanea*], *Fagus grandifolia* Ehrh., *Quercus alba* L., scarlet oak [*Q. coccinea* Münchh.], *Q. palustris* Muenchh., *Q. pedunculata* Ehrh., *Q. prinus* L., *Q. rubra* L. (Fagaceae); *Carya tomentosa* (Lam. ex Poir.) Nutt. [*C. alba* (L.) Nutt. ex Ell.], *C. ovata* (Mill.) K. Koch, *Juglans nigra* L. (Juglandaceae); *Amianthium muscaetoxicum* (Walt.) Gray (Liliaceae); ash tree [*Fraxinus*] (Oleaceae); pokeweed [*Phytolacca americana* L.] (Phytolaccaceae); *Pinus virginiana* P. Mill. (Pinaceae); oats [*Avena*], wheat [*Triticum*] (Poaceae); *Polygonum perfoliatum* L. (Polygonaceae); *Crataegus tomentosa* L. [*C. calpodendron* (Ehrh.) Medik.], *C. coccinea* auct. non L. [*C. intricata* Lange], quince [*Cydonia oblonga* Mill.], Siberian crab apple [*Malus baccata* (L.) Borkh.], *Malus sylvestris* P. Mill., *Prunus serotina* Ehrh., raspberry [*Rubus*] (Rosaceae); *Ulmus americana* L., red elm [*U. rubra* Muhl.] (Ulmaceae); and grape [*Vitis*] (Vitaceae) (Anonymous, 1963m, 1964i, 1964k, 1965f, 1979, 1985, 1989; Baker, 1972; Blatchley, 1910; Bray & Triplehorn, 1953; Britton & Zappe, 1927; M. W. Brown, 1993; M. W. Brown *et al.*, 1988; Butte, 1968c; Chittenden, 1902b, 1904b; Cole, 1968; Dailey *et al.*, 1978; Davidson & Lyon, 1987; Dillon & Dillon, 1961; Dominick, 1938; Downie & Arnett, 1996; Drooz, 1959; Felt, 1905; Ford & Cavey, 1985; Frost, 1924; Hanson & Walker, 1996; Haviland, 1943; Herrick, 1935; Hicks & Mudrick, 1994; Hoffman, 1942; Hopkins, 1893, 1896, 1897b; Houser, 1913, 1918; Johnson & Lyon, 1991; Kerr, 1959; Lyon, 1963a, 1964; Lyon & Custer, 1963; McDowell, 1960; Mullins, 1976a; Pirone, 1970; Poos, 1940; Riley & Fuller, 1880a; Shenefelt & Benjamin, 1955; Walker, 1979b; Weiss, 1919b; Westcott, 1946; Wheeler, 1980, 1987; Wheeler & Mengel, 1984; Wheeler & Snook, 1986;

Wilcox, 1954; Williams, 1989d). Many of these associations occurred in early spring before beetles migrated to their normal host. Although some involved adult feeding, others were probably purely incidental.

McAtee (1924) recorded *O. dorsalis* from among leaves of *Verbascum thapsus* L. (Scrophulariaceae), but he considered this plant to be a mere overwintering site. Wray & Brimley (1943) reported a specimen of *O. dorsalis* from *Sarracenia flava* L. (Sarraceniaceae), but this was probably an instance in which the insect was prey rather than an herbivore.

Dominick (1938) reported that caged beetles fed on birch [*Betula*] (Betulaceae); honey locust [*Gleditsia triacanthos*], soybean [*Glycine max*] (Fabaceae); oak [*Quercus*] (Fagaceae); mulberry [*Morus*] (Moraceae); hawthorn [*Crataegus*], wild crab apple [*Malus coronaria* (L.) P. Mill.], cherry [*Prunus*], plum [*Prunus*] (Rosaceae); and elm [*Ulmus*] (Ulmaceae). However, eggs and larvae were not found on these plants.

***Odontota horni* Smith.** Hosts are Fabaceae, this species having been recorded from *Amphicarpaea bracteata* (L.) Fern., *Desmodium canescens* (L.) DC., *D. illinoense* A. Gray, *D. rigidum* (Ell.) DC. [*D. obtusum* (Muhl. ex Willd.) DC.], *Glycine max* (L.) Merr., *Lespedeza*, and *Tephrosia virginiana* (L.) Pers. (Bickenstaff & Huggans, 1962; Blatchley, 1910; Buntin & Pedigo, 1982; Butte, 1968c; Chittenden, 1902b, 1904b; Deitz *et al.*, 1976; Downie & Arnett, 1996; Dozier, 1922; Ford & Cavey, 1985; Frost, 1924; Kirk & Balsbaugh, 1975; Kogan & Kogan, 1979; Smith, 1910, 1910a; Wenzel, 1894; Wilcox, 1954, 1979). Barber (in otherwise unpublished notes quoted by Butte, 1968c) stated that the association with *Falcata comosa* (L.) Kuntze [*Amphicarpaea bracteata*] was probably erroneous. Even so, this doubt was apparently unjustified.

Additional fabaceous associations have been discovered in previously unpublished field work. In Missouri, we have found adults on *Amorpha canescens* Pursh and *Lespedeza capitata* Michx. Captive beetles fed on foliage of both of these plants. Also in Missouri, we have found an adult on an insect-damaged leaflet of *Pediomelum argophyllum* (Pursh) J. Grimes. In east-central Texas, we have collected adults from *Tephrosia onobrychoides* Nutt. Andrew H. Williams (pers. comm.) has associated *O. horni* with *Desmodium canadense* (L.) DC. and *D. illinoense* in Wisconsin.

In areas of western Missouri where we have repeatedly found *O. horni* feeding on *Desmodium illinoense*, we have also found numerous adults of this beetle species on *Quercus imbricaria* Michx. (Fagaceae). These occurrences on *Quercus* occurred mainly in autumn, and this plant is probably not a preferred host.

***Odontota mundula* (Sanderson).** This species is associated with *Amphicarpaea bracteata* (L.) Fern. (Fabaceae), the larvae mining the leaves (Butte, 1968c; Ford & Cavey, 1985; Riley & Enns, 1979). Beetles have also been recorded from *Solidago* (Asteraceae) (Kirk & Balsbaugh, 1975), but this occurrence was probably incidental.

***Odontota notata* (Olivier).** The host of this species is reported to be *Tephrosia virginiana* (L.) Pers. (Fabaceae) (Butte, 1968c; Chittenden, 1902b, 1904b; Clark, 2000; Downie & Arnett, 1996; Ford & Cavey, 1985; Frost, 1924; Smith, 1900, 1910a; Wenzel, 1894). Beetles have also been recorded from *Ostrya* (Betulaceae), oak [*Quercus*] (Fagaceae), and blackberry [*Rubus*] (Rosaceae) (Blatchley, 1924a; Dozier, 1918, 1920), but these occurrences were likely incidental. There has been speculation that *Solidago* (Asteraceae) is a host (Chittenden, 1902b, 1904b). This was surely in error.

***Odontota scapularis* (Olivier).** The normal host is *Apios americana* Medik. (Fabaceae) (Butte, 1968c; Clark, 2000; Ford & Cavey, 1985; Hicks, 1944; Maulik, 1937; Riley & Enns, 1979). Also, this beetle species has been recorded from *Desmodium*, honey locust [*Gleditsia triacanthos* L.], and *Glycine apios* L. (Fabaceae) (Dillon & Dillon, 1961; Downie & Arnett, 1996; Ford & Cavey, 1985; Frost, 1924; Wilcox, 1979).

This beetle species has further been recorded from *Amphicarpaea bracteata* (L.) Fern. (Fabaceae) (Blatchley, 1910; Downie & Arnett, 1996; Wilcox, 1954, 1979). However, this association may have been based on populations of *Odontota mundula* (Sanderson).

Beyond Fabaceae, beetles have been recorded from *Solidago* (Asteraceae); *Alnus serrulata* (Ait.) Willd., *Betula nigra* L., *Corylus* (Betulaceae); *Cornus alternifolia* L. f. (Cornaceae); cypress [likely *Chamaecyparis* (Cupressaceae), *Cupressus* (Cupressaceae), or *Taxodium* (Taxodiaceae)]; red oak [*Quercus rubra* L.] (Fagaceae); plum [*Prunus*] and *Rubus* (Rosaceae) (Chittenden, 1902b, 1904b; Cole, 1974; Douglass, 1929; Ford & Cavey, 1985; Popenoe, 1877; Rouse & Medvedev, 1972). Even so, these are not preferred hosts. Wray & Brimley (1943) reported a specimen of *O. scapularis* from *Sarracenia flava* L. (Sarraceniaceae), but this was probably an instance in which the insect was prey rather than an herbivore.

***Omphoita cyanipennis* (Fabricius).** In his unpublished Ph.D. thesis, Mignot (1970) reported *Omphoita octomaculata* (Crotch), here considered a subspecies of *O. cyanipennis*, from cabbage [*Brassica oleracea* L.] (Brassicaceae); beet [*Beta vulgaris* L.] (Chenopodiaceae); watermelon [*Citrullus lanatus* (Thunb.) Matsum. & Nakai] (Cucurbitaceae); alfalfa [*Medicago sativa* L.], field pea [likely either *Pisum sativum* L. or *Vigna unguiculata* L.], mesquite [*Prosopis*] (Fabaceae); lavender [*Lavandula*] (Lamiaceae); corn [*Zea mays* L.] (Poaceae), and potato [*Solanum tuberosum* L.] (Solanaceae). Rogers (1988) listed *O. octomaculata* from *Helianthus annuus* L. (Asteraceae).

Records maintained by the USDA-ARS Grassland, Soil and Water Research Laboratory state that an adult of *O. c. octomaculata* has been beaten from foliage of *Aloysia gratissima* (Gillies & Hook.) Troncoso (Verbenaceae) in Maverick County, Texas (Thomas O. Robbins, pers. comm.). Verbenaceous plants are apparently normal hosts.

In the West Indies, *O. cyanipennis* has been recorded from *Pluchea purpurascens* (Sw.) DC. [*P. odorata* (L.) Cass.], *Verbesina alata* L. (Asteraceae); *Ludwigia angustifolia* (Lam.) M. Gómez, *L. erecta* (L.) Hara, *L. octovalvis* (Jacq.) Raven (Onagraceae); *Saccharum officinarum* L. (Poaceae); *Rhizophora mangle* L. (Rhizophoraceae); *Cestrum nocturnum* L., *Physalis* (Solanaceae); *Clerodendrum aculeatum* (L.) Schlecht., *C. speciosissimum* Van Geert ex C. Morr., *Lantana involucrata* L., *Phyla nodiflora* (L.) Greene, and *Stachytarpheta jamaicensis* (L.) Vahl. [*S. indica* (L.) Vahl.] (Verbenaceae) (Begossi, 1988; Bruner *et al.*, 1975; Martorell, 1976; Virkki, 1972, 1973, 1979, 1980, 1982; Virkki & Santiago-Blay, 1998; Virkki & Zambrana, 1983; Virkki, Santiago-Blay, & Clark, 1992; Wolcott, 1936, 1951). Additionally, Virkki (1980) reported that West Indian *O. cyanipennis* accepted *Aegiphila martinicensis* Jacq. (Verbenaceae) under laboratory conditions, but he doubted that this plant was fed upon in nature.

In Costa Rica, *O. c. octomaculata* (Crotch) has been reported from *Mangifera indica* L. (Anacardiaceae); *Annona squamosa* L. (Annonaceae); *Asclepias curassavica* L. (Asclepiadaceae); *Brassica japonica* Siebold (Brassicaceae); *Ananas sativus* Schult. & Schult. f. (Bromeliaceae); *Rheedia edulis* Planch. & Triana (Clusiaceae); *Codiaeum variegatum* (L.) A. Juss., *Euphorbia pulcherrima* Willd. ex Klotzsch (Euphorbiaceae); *Crotalaria spectabilis* Roth (Fabaceae); *Ficus carica* L. (Moraceae); *Panicum barbinode* Trin. [*Brachiaria mutica* (Forssk.) Stapf], *Oryza sativa* L. (Poaceae); *Punica granatum* L. (Punicaceae); *Citrus limonia* Osbeck (Rutaceae); *Brugmansia candida* Pers., *B. suaveolens* (Humb. & Bonpl. ex Willd.) Berecht. & K. Presl, and *Lycopersicon esculentum* Mill. (Solanaceae) (Ballou, 1936). However, as restricted by Blake (1931a), the distribution of this beetle species does not include Central America. Accordingly, Costa Rican records were likely based on species of *Omophoita* other than *O. cyanipennis*.

***Oomorphus floridanus* Horn.** According to Jolivet & Hawkeswood (1995) and Jolivet & Verma (2002), this species is normally associated with Araliaceae, likely including *Hedera*. However, *O. floridanus* has also been reported from *Metopium* (Anacardiaceae), *Ficus citrifolia* P. Mill. (Moraceae), and *Pinus* (Pinaceae) (Blatchley, 1928; Flowers *et al.*, 1994; Jolivet & Verma, 2002; Peck & Thomas, 1998; Riley *et al.*, 2002; Takizawa, 2003). Oddly, it is also reported to feed on dung of the rodent *Neotoma floridana* (Ord) (Jolivet, 1987b, 1995a; Jolivet & Hawkeswood, 1995; Jolivet & Verma, 2002; Mafra-Neto & Jolivet, 1994, 1996).

***Opacincta bisignata* (Boheman).** This species is associated with Convolvulaceae, including *Ipomoea batatas* (L.) Lam., *I. pandurata* (L.) G. F. W. Mey., and possibly *Convolvulus* (Clark, 2000; Balsbaugh & Hays, 1972; Borowiec, 1999; Downie & Arnett, 1996; Riley, 1985a, 1986a; Riley & Enns, 1979; Riley *et al.*, 2002). Beyond Convolvulaceae, *O. bisignata* has been reported from pine [*Pinus*] (Pinaceae) (Balsbaugh & Hays, 1972, Riley, 1985a; Schaeffer, 1925b), but this is almost certainly not a food plant.

***Ophraea rugosa* Jacoby.** A series of this species has been recorded from leaves of *Beloperone* (Acanthaceae) (Blake, 1957; Riley *et al.*, 2002; Wilcox, 1965).

***Ophraella americana* (Fabricius).** Hosts are species of *Solidago* (Asteraceae), including *S. rugosa* P. Mill. (Balsbaugh & Hays, 1972; Blatchley, 1924a; Downie & Arnett, 1996; Futuyma, 1990, 1991b; Futuyma & McCafferty, 1990; Futuyma *et al.*, 1995; Kirk & Balsbaugh, 1975; LeSage, 1986b; Messina & Root, 1980; Peck & Thomas, 1998; Smith, 1900, 1910a; Ulke, 1903; Wilcox, 1965, 1979). Chittenden (1895c) associated *O. americana* with a plant identified as probably *S. arguta* Ait.

This beetle species has also been reported from *Helianthus* and *Symphyotrichum drummondii* (Lindl.) Nesom (Asteraceae) (Hendrickson, 1928; Riley & Enns, 1979). In previously unpublished investigations in Missouri, we have added credence to the association with *S. drummondii*. We found a larva on this plant and reared it to an adult specimen of *O. americana*.

Whelan (1936) recorded this beetle species from grass [Poaceae], but this occurrence was surely adventitious. Lee (1949) included *O. americana* in a list of insects associated with *Cercis canadensis* L. (Fabaceae), but the single specimen he reported was collected by sweeping, and his record was certainly incidental. Johnson (1915) stated that this species was common on willow [*Salix*] (Salicaceae), but this report was likely based on misidentified *Tricholochmaea*. Hatch (1924a) reported a “variety without markings” from *Spiraea latifolia* (Ait.) Borkh. [*S. alba* var. *latifolia* (Ait.) Dippel] (Rosaceae), but this was surely also based on misidentified *Tricholochmaea*.

***Ophraella arctica* LeSage.** This species feeds naturally on *Solidago multiradiata* Ait. (Asteraceae) (Funk *et al.*, 1995; Futuyma, 1990, 1991b, 1992, 1994; Futuyma, Keese, & Scheffer, 1993; Futuyma & May, 1991; Futuyma & McCafferty, 1990; Futuyma *et al.*, 1994, 1995; Keese, 1998; LeSage, 1986b; Mitter *et al.*, 1991; Silfverberg, 1994). In laboratory experiments, it has also fed on *Ambrosia artemisiifolia* L., *Heterotheca villosa* (Pursh) Shinnars, *Solidago altissima* L., *S. bicolor* L., and *S. juncea* Ait. (Asteraceae) (Futuyma,

1991b, 1994).

***Ophraella artemisiae* Futuyma.** Hosts are species of *Artemisia* (Asteraceae), including *A. carruthii* A. Wood ex Carruth and *A. ludoviciana* Nutt. (Funk *et al.*, 1995; Futuyma, 1990, 1992, 1994; Futuyma, Keese, & Scheffer, 1993; Futuyma & May, 1991; Futuyma & McCafferty, 1990; Futuyma *et al.*, 1994, 1995; Keese, 1998; Mitter *et al.*, 1991; Verdyck, 1998). Beyond this, Futuyma (1990) reported two specimens labeled from *Ceanothus fendleri* A. Gray (Rhamnaceae), but, as he noted, this plant is probably not a host.

Under laboratory conditions, this beetle species has been reared rather well on *Artemisia vulgaris* L. (Futuyma, 1994; Futuyma *et al.*, 1994, 1995). Also, in laboratory tests, beetles at least nibbled on the astera-ceous plants *Ambrosia artemisiifolia* L., *Eupatorium perfoliatum* L., *Helianthus ciliaris* DC., *Heterotheca villosa* (Pursh) Shinnars, *Solidago altissima* L., and *S. bicolor* L., but, compared to tests with *Artemisia car-ruthii*, feeding was minimal (Futuyma, 1990; Futuyma *et al.*, 1994, 1995).

***Ophraella bilineata* (Kirby).** The host of this species is *Heterotheca villosa* (Pursh) Shinnars (Asteraceae) (Funk *et al.*, 1995; Futuyma, 1990, 1991b, 1992; Futuyma, Keese, & Scheffer, 1993; Futuyma & May, 1991; Futuyma & McCafferty, 1990; Futuyma *et al.*, 1994, 1995; Keese, 1998; LeSage, 1986b; Mitter *et al.*, 1991; Petitpierre *et al.*, 1990; Verdyck, 1998). Under experimental conditions, *O. bilineata* has also fed mini-mally on *Aster sagittifolius* Willd. and *Solidago altissima* L. (Asteraceae) (Futuyma, 1991b).

***Ophraella californiana* LeSage.** This species has been associated with *Artemisia douglasiana* Besser (Asteraceae) (Carr, 1988; Funk *et al.*, 1995; Futuyma, 1990, 1991b, 1994; Futuyma & McCafferty, 1990; Futuyma *et al.*, 1995; LeSage, 1986b).

***Ophraella communis* LeSage.** This species, including populations outside of the United States and Canada, is associated with Asteraceae, having been recorded from *Ambrosia artemisiifolia* L., *A. confertifolia* DC. [presumably *A. confertiflora* DC.], *A. cumanensis* Kunth, *A. psilostachya* DC., *A. trifida* L., *Artemisia*, *Coreopsis cardaminefolia* (DC.) Torr. & Gray [*C. tinctoria* Nutt.], *Helenium*, *Helianthus annuus* L., *H. cili-aris* DC., *H. tuberosus* L., *Hymenoclea*, *Iva axillaris* Pursh, lettuce [*Lactuca*], *Parthenium hysterophorus* L., *Ratibida pinnata* (Vent.) Barnh., and *Xanthium strumarium* L. (Carr, 1988; Downie & Arnett, 1996; Funk, 1999; Funk *et al.*, 1995; Futuyma, 1990, 1991a, 1991b, 1992, 1994; Futuyma, Keese, & Scheffer, 1993; Futuyma & May, 1991; Futuyma & McCafferty, 1990; Futuyma *et al.*, 1994, 1995; Goeden & Teerink, 1993; Jolivet, 2001; Jolivet & Verma, 2002; Keese, 1997, 1998; LeSage, 1986b; McClay *et al.*, 1995; Mitter *et al.*, 1991; Moriya, 1999; Moriya & Shiyake, 2001; Palmer & Goeden, 1991; Peck & Thomas, 1998; Petitpierre *et al.*, 1990; Sohn *et al.*, 2002; Verdyck, 1998; Watanabe, 2000; Yamazaki *et al.*, 2000). Additionally, Packard's (1888) report of "*Galeruca gelatinariae* Fabr. or an allied species" from *Ambrosia elatior* L. [*A. artemisiifolia* var. *elatior* (L.) Descourt.] may have been based on *O. communis*. In Japan, Yamazaki *et al.* (2000) reported a single adult of *O. communis* from *Artemisia princeps* Pamp., but they suspected that it may have merely wandered to this plant from nearby *Ambrosia artemisiifolia*. In previously unpublished observations, we have associated California populations with *Franseria* and *Hemizonia corymbosa* (DC.) J. Torr. & A. Gray. Most recorded associations for *O. communis* from eastern North America are with *Ambrosia artemisiifolia*. Beetles from western states have apparently broader host ranges.

In laboratory tests, *O. communis* has fed at least minimally on some of the plants mentioned above, as well as on *Artemisia annua* L., *A. carruthii* A. Wood ex Carruth, *A. douglasiana* Besser, *A. vulgaris* L., *Bidens frondosa* L., *B. pilosa* L., *Eupatorium perfoliatum* L., *Heterotheca villosa* (Pursh) Shinnars, *Iva frute-scens* L., *Solidago altissima* L., and *S. bicolor* L. (Asteraceae) (Futuyma, 1990, 1991b, 1992, 1994; Futuyma, Keese, & Scheffer, 1993; Futuyma & May, 1991; Futuyma *et al.*, 1995; Palmer & Goeden, 1991; Yamazaki *et al.*, 2000). However, some of these were very poor food plants, the larvae dying before maturity.

Beyond Asteraceae, *O. communis* has been recorded from *Commelina* (Commelinaceae), *Ipomoea* (Convolvulaceae), onion [*Allium*] (Liliaceae), *Gossypium hirsutum* L. (Malvaceae), and *Passiflora* (Passiflo-raceae) (Palmer & Goeden, 1991). However, in spite of mention of feeding for some of the plants, these are not normal hosts.

Futuyma (1991b) reported beetles questionably identified as *O. communis* that were associated with a plant questionably identified as *Artemisia carruthii*. However, this association was apparently based on populations of *Ophraella artemisiae* Futuyma. Prior to recent taxonomic revision, *O. communis* was often misidentified as *O. notulata* (Fabricius). See comments below concerning associations recorded for that species.

***Ophraella conferta* (LeConte).** This species feeds naturally on *Solidago* (Asteraceae), including *S. altissima* L., *S. canadensis* L., *S. gigantea* Ait., *S. juncea* Ait., and *S. rugosa* P. Mill. (Cappuccino, 1991b; Chagnon, 1938; Chagnon & Robert, 1962; Clark, 2000; Downie & Arnett, 1996; Funk *et al.*, 1995; Futuyma, 1990, 1991b, 1992, 1994; Futuyma, Keese, & Scheffer, 1993; Futuyma & May, 1991; Futuyma & McCaf-ferty, 1990; Futuyma *et al.*, 1994, 1995; Keese, 1998; LeSage, 1986b; Maddox & Root, 1987, 1990; Messina & Root, 1980; Mitter *et al.*, 1991; Peck & Thomas, 1998; Petitpierre *et al.*, 1990; Verdyck, 1998).

Additionally, Messina & Root (1980) reported some oviposition on *Euthamia graminifolia* (L.) Nutt.

(Asteraceae). However, they stated that this plant was avoided in comparison to various species of *Solidago*. In previously unpublished investigations in Wisconsin, Andrew H. Williams (pers. comm.) has found *O. conferta* mating and feeding on *Helianthus grosseserratus* Martens (Asteraceae).

Under experimental conditions, this beetle species has fed on some of the plants mentioned above, as well as on *Ambrosia artemisiifolia* L., *Eupatorium perfoliatum* L., *Heterotheca villosa* (Pursh) Shinnars, *Iva frutescens* L., *Solidago bicolor* L., and *S. multiradiata* Ait. (Asteraceae) (Futuyma, 1991b, 1994; Futuyma *et al.*, 1994, 1995). However, some of these plants are probably not significant hosts in nature.

***Ophraella cribrata* (LeConte).** Hosts are species of *Solidago* (Asteraceae), including *S. altissima* L., *S. bicolor* L., *S. canadensis* L., *S. juncea* Ait., *S. nemoralis* Ait., *S. pinetorum* Small, and *S. rugosa* P. Mill. (Abdullah & Qureshi, 1968; Balsbaugh & Hays, 1972; Böving, 1929; Clark, 2000; Downie & Arnett, 1996; Funk *et al.*, 1995; Futuyma, 1990, 1991b, 1992, 1994; Futuyma, Keese, & Scheffer, 1993; Futuyma & May, 1991; Futuyma & McCafferty, 1990; Futuyma *et al.*, 1994, 1995; Greene, 1970; Kirk & Balsbaugh, 1975; LeSage, 1986b; Messina & Root, 1980; Mitter *et al.*, 1991; Petitpierre *et al.*, 1990; Riley & Enns, 1979; Verdyck, 1998; Wilcox, 1954, 1965, 1979; Woods, 1924). In laboratory tests, *O. cribrata* has also fed on *S. multiradiata* Ait. and *S. squarrosa* Muhl. (Asteraceae) (Futuyma, 1991b; Woods, 1924).

Trippel (1934) recorded *O. cribrata* from grass [Poaceae], but this occurrence was surely incidental. This beetle species has also been swept from lespedeza [*Lespedeza*] (Fabaceae) (Kirk, 1970), but this should not be interpreted as a host association.

***Ophraella notata* (Fabricius).** The normal host is *Eupatorium perfoliatum* L. (Asteraceae) (Abdullah & Qureshi, 1968; Balsbaugh & Hays, 1972; Blake, 1952; Blatchley, 1910, 1924a; Böving, 1929; Chittenden, 1892; Clark, 2000; Downie & Arnett, 1996; Funk *et al.*, 1995; Futuyma, 1990, 1991b, 1992, 1994; Futuyma, Keese, & Scheffer, 1993; Futuyma & May, 1991; Futuyma & McCafferty, 1990; Futuyma *et al.*, 1994, 1995; LeSage, 1986b; Mitter *et al.*, 1991; Mutchler & Weiss, 1926; Peck & Thomas, 1998; Petitpierre *et al.*, 1990; Riley & Enns, 1979; Smith, 1900, 1910a; Ulke, 1903; Verdyck, 1998; Wilcox, 1954, 1965, 1979; Woods, 1924). However, this species has also been associated with *Eupatorium capillifolium* (Lam.) Small, *E. hysopifolium* L., *E. maculatum* L., and *E. rotundifolium* L. (Clark, 2000; Funk *et al.*, 1995; Futuyma, 1990, 1991b; Futuyma & McCafferty, 1990). Additionally, Balsbaugh & Hays (1972) collected a single specimen from *Aster strigosus* Thunb. (Asteraceae).

In previously unpublished investigations in Texas, we have collected adults of this species from *Eupatorium serotinum* Michx. We have also seen Texas material labeled from *Liatris* (Asteraceae).

This beetle species has also been recorded from *Helianthus annuus* L. (Asteraceae) (Essig, 1958; Fall & Cockerell, 1907; Townsend, 1895), but such reports were likely based on misidentification. Additionally, beetles have been recorded from clover [likely *Trifolium*] (Fabaceae) and Bermuda grass [*Cynodon dactylon* (L.) Pers.] (Poaceae) (Kirk, 1970), but these occurrences were almost certainly incidental. Beyond these records, *O. notata* has been swept from lespedeza [*Lespedeza*] (Fabaceae), but this should not be interpreted as a host association.

Beyond the occurrences reported above, *O. notata* has fed experimentally on *Ambrosia artemisiifolia* L. (Asteraceae) (Futuyma, 1991b). However, this plant is probably not a significant host in nature.

***Ophraella notulata* (Fabricius).** Hosts are species of *Iva* (Asteraceae), including *I. annua* L. and *I. frutescens* L. (Downie & Arnett, 1996; Funk *et al.*, 1995; Futuyma, 1990, 1991a, 1991b, 1992, 1994; Futuyma, Herrmann, *et al.*, 1993; Futuyma, Keese, & Scheffer, 1993; Futuyma & May, 1991; Futuyma & McCafferty, 1990; Futuyma *et al.*, 1994, 1995; Keese, 1997, 1998; Lago *et al.*, 2002; LeSage, 1986b; Mitter *et al.*, 1991; Petitpierre *et al.*, 1990).

Under laboratory conditions, *O. notulata* has also fed at least minimally on *Ambrosia artemisiifolia* L., *Artemisia vulgaris* L., *Eupatorium perfoliatum* L., *Heterotheca villosa* (Pursh) Shinnars, *Solidago bicolor* L., and *Xanthium strumarium* L. (Asteraceae) (Futuyma, 1990, 1991b, 1992, 1994; Futuyma, Herrmann, *et al.*, 1993; Futuyma *et al.*, 1995; Keese, 1998). However, these plants are apparently not significant hosts in nature.

This beetle species, sometimes cited as the synonym *O. integra* (LeConte), has also been reported from soybean [*Glycine max* (L.) Merr.], alfalfa [*Medicago sativa* L.] (Fabaceae); *Cuphea petiolata* Pohl ex Koehne [C. viscosissima Jacq.] (Lythraceae); and evening primrose [*Oenothera*] (Onagraceae) (Balsbaugh & Hays, 1972; Bickensstaff & Huggans, 1962; Rouse & Medvedev, 1972; Wilcox, 1979). However, these occurrences were likely adventitious. Lago *et al.* (2002) reported *O. notulata* swept from *Baccharis halimifolia* L. (Asteraceae), but sweeping records should not necessarily be interpreted as host associations. LeSage (1986b) rightly discounted specimens labeled from ragweed [*Ambrosia*], cocklebur [*Xanthium*] (Asteraceae); sweet potato [*Ipomoea batatas* (L.) Lam.] (Convolvulaceae); soybean [*Glycine max*] and lima bean [*Phaseolus lunatus* L.] (Fabaceae).

Prior to recent taxonomic revision, most records of *O. notulata* were actually based instead on *Ophraella communis* LeSage. Such reports involved associations with *Ambrosia artemisiifolia*, *A. psilostachya* DC.,

Helianthus annuus L., and *Xanthium strumarium* (Asteraceae) (Abdullah & Qureshi, 1968; Balsbaugh & Hays, 1972; Blake, 1952; Blatchley, 1924a; Carr, 1988; Dozier, 1918, 1920; Goeden & Ricker, 1985; Greene, 1970; Hamilton, 1895; Harris & Piper, 1970; Kovalev, 1971; Moore, 1937; Mutchler & Weiss, 1926; Rogers, 1988; Smith, 1900, 1910a, 1940; Welch, 1978; Wilcox, 1954, 1965, 1972; Woods, 1924). Additionally, under laboratory conditions, “*O. notulata*” has been reared on the asteraceous plants *Ambrosia chenopodiifolia* (Benth.) W. W. Payne, *A. confertiflora* DC., *A. dumosa* (A. Gray) W. W. Payne, *A. eriocentra* (Gray) Payne, and *A. ilicifolia* (Gray) Payne (Goeden & Ricker, 1985). Beyond Asteraceae, *O. notulata* has been reported from broomsedge [*Andropogon virginicus* L.] (Poaceae) (Kirk, 1969; Rouse & Medvedev, 1972). Not only was this association likely based on *O. communis*, but also it was surely incidental. Additionally, “*Galerucella notulata*” has been reported hibernating beneath mullein leaves [*Verbascum*] (Scrophulariaceae) (Blatchley, 1896, 1910; Mutchler & Weiss, 1926), but this should not be interpreted as a food plant relationship.

***Ophraella nuda* LeSage.** The host of this species is *Iva axillaris* Pursh (Asteraceae) (Funk *et al.*, 1995; Futuyma, 1990, 1991b, 1992, 1994; Futuyma, Keese, & Scheffer, 1993; Futuyma & May, 1991; Futuyma & McCafferty, 1990; Futuyma *et al.*, 1994, 1995; Mitter *et al.*, 1991; Petitpierre *et al.*, 1990; Verdyck, 1998). Under experimental conditions, *O. nuda* has also fed on *Ambrosia artemisiifolia* L., *A. psilostachya* DC., *Iva frutescens* L., and *Xanthium strumarium* L. (Asteraceae) (Futuyma, 1991b), but these plants are probably not significant hosts under normal conditions.

***Ophraella pilosa* LeSage.** This species has been reported in association with *Aster sagittifolius* Willd., *Eurybia macrophylla* (L.) Cass., *Solidago bicolor* L., *S. squarrosa* Muhl., *Symphyotrichum cordifolium* (L.) Nesom, *S. laeve* (L.) A. & D. Löve, *Aster paniculatus* Lam. [*S. lanceolatum* var. *lanceolatum* (Willd.) Nesom], *Aster simplex* Willd. [*S. lanceolatum*], *S. lowrieianum* (Porter) Nesom, *S. novae-angliae* (L.) Nesom, and *S. urophyllum* (Lindl.) Nesom (Asteraceae) (Downie & Arnett, 1996; Funk *et al.*, 1995; Futuyma, 1990, 1991b, 1992, 1994; Futuyma, Keese, & Scheffer, 1993; Futuyma & May, 1991; Futuyma & McCafferty, 1990; Futuyma *et al.*, 1994, 1995; LeSage, 1986b; Mitter *et al.*, 1991; Petitpierre *et al.*, 1990; Verdyck, 1998). Under experimental conditions, *O. pilosa* has also fed on *Solidago altissima* L. (Asteraceae) (Futuyma, 1991b), but this plant may not be a significant host in nature.

***Ophraella sexvittata* (LeConte).** Hosts are species of *Solidago* (Asteraceae), beetles having been reported from *S. altissima* L., *S. canadensis* L., *S. gigantea* Ait., *S. leavenworthii* J. Torr. & A. Gray, and *S. nemoralis* Ait. (Balsbaugh & Hays, 1972; Clark, 2000; Downie & Arnett, 1996; Funk *et al.*, 1995; Futuyma, 1990, 1991b, 1992, 1994; Futuyma, Keese, & Scheffer, 1993; Futuyma & May, 1991; Futuyma & McCafferty, 1990; Futuyma *et al.*, 1994, 1995; Hatch, 1924a; LeSage, 1986b; Mitter *et al.*, 1991; Peck & Thomas, 1998; Petitpierre *et al.*, 1990; Riley & Enns, 1979; Verdyck, 1998; Whitehead, 1920; Wilcox, 1954, 1965, 1979).

Palmer (1987) included *O. sexvittata* in a list of insects collected from *Baccharis halimifolia* L. (Asteraceae), but this is probably not a normal host plant. Andrews (1923) reported a specimen from willow [*Salix*] (Salicaceae) in Michigan, but this record was probably based on a misidentified beetle, Michigan being somewhat beyond the currently recognized range of *O. sexvittata*.

***Ophraella slobodkini* Futuyma.** The host of this species is *Ambrosia artemisiifolia* L. (Asteraceae) (Funk *et al.*, 1995; Futuyma, 1991a, 1992, 1994; Futuyma, Keese, & Scheffer, 1993; Futuyma & May, 1991; Futuyma & McCafferty, 1990; Futuyma *et al.*, 1994, 1995; Keese, 1997, 1998). Under experimental conditions, *O. slobodkini* has also fed on *Iva frutescens* L. (Futuyma, 1992; Keese, 1998), but this plant is apparently not a significant host in nature. In Mexico, larvae and adults of “*Ophraella* prob. *slobodkini*” are reported to feed on *Parthenium hysterophorus* L. (Asteraceae) (McClay *et al.*, 1995).

***Orsodacne atra* (Ahrens).** Larval hosts of this species are unknown, but adults have been found on a variety of plants and are often associated with flowers. They have been reported from *Acer negundo* L., *A. rubrum* L., *A. spicatum* Lam. (Aceraceae); *Rhus aromatica* Ait. (Anacardiaceae); *Alnus serrulata* (Ait.) Willd., *Betula lutea* Michx. f. [*B. alleghaniensis* Britt.], *Carpinus caroliniana* Walt., *Corylus americana* Walt. (Betulaceae); *Sambucus caerulea* Raf., *Viburnum nudum* L. (Caprifoliaceae); *Cornus alternifolia* L. f., *C. florida* L. (Cornaceae); *Cercis canadensis* L. (Fabaceae); *Quercus* (Fagaceae); *Hamamelis vernalis* Sarg. (Hamamelidaceae); *Iris versicolor* L. (Iridaceae); *Lindera benzoin* (L.) Blume (Lauraceae); fir [*Abies*], spruce [*Picea*] (Pinaceae); *Hepatica nobilis* P. Mill. (Ranunculaceae); *Amelanchier arborea* (F. Michx.) Fern., *A. canadensis* Medik., *Crataegus*, apple [*Malus sylvestris* P. Mill.], *Prunus americana* Marsh., *P. munsoniana* W. F. Wight & Hedrick, *P. pensylvanica* L. f., peach [*P. persica* (L.) Batsch], pear [*Pyrus*], *Rubus idaeus* L., *Spiraea latifolia* (Ait.) Borkh. [*S. alba* var. *latifolia* (Ait.) Dippel] (Rosaceae); *Galium* (Rubiaceae); poplar [*Populus*], *Salix amygdaloides* Anderss., *S. cordata* Michx., *S. humilis* Marsh. (Salicaceae); and *Verbascum thapsus* L. (Scrophulariaceae) (Andrews, 1923; Arnett, 1962; Balsbaugh & Hays, 1972; Beller & Hatch, 1932; Blackman, 1918; Borror *et al.*, 1989; Brisley, 1927; Carr, 1988; Chagnon, 1937; Chagnon & Robert, 1962; Chittenden, 1892, 1897b; Clark & Riley, 2002; Dearborn & Donahue, 1993; Dillon & Dillon, 1961; Downie & Arnett, 1996; Edwards, 1949; Felt, 1907; Frost, 1912; Hatch, 1924a, 1971; Jolivet & Hawkes-

Leaf Beetles and Associated Plants

wood, 1995; Jolivet & Verma, 2002; Kirk, 1970; Lovell, 1915; Lugger, 1899; MacAloney, 1950; Morris, 1913, 1914b, 1916; Popenoe, 1878; Proctor, 1938, 1946; Riley & Enns, 1979; Robertson, 1894b, 1896a, 1929; Rouse & Medvedev, 1972; Schaeffer, 1928a; Smith, 1900; Ulke, 1903; White, 1983; Wickham, 1896a; Wilcox, 1979).

Boiteau (1983a) included *O. atra* in a list of insects collected from potato fields [*Solanum tuberosum* L.] (Solanaceae). Even so, this should not necessarily be interpreted as a host association.

Beyond these reports, Wilcox (1979) listed "*Orsodacne* sp." from North America in association with *Quercus* (Fagaceae). Only one species of this insect genus, *O. atra*, occurs in North America.

In previously unpublished investigations in West Virginia, we have associated *O. atra* with flowers of *Viburnum lantanoides* Michx. (Caprifoliaceae). Andrew H. Williams (pers. comm.) has found this beetle species in flowers of *Hydrophyllum virginianum* L. (Hydrophyllaceae) in Wisconsin.

***Orthaltica copalina* (Fabricius).** This species is associated with Anacardiaceae, including *Rhus aromatica* Ait., *R. copallina* L., *R. glabra* L., *R. typhina* L., and *Toxicodendron radicans* (L.) Kuntze (Balsbaugh & Hays, 1972; Blake, 1952; Blatchley, 1910, 1924a; Carr, 1988; Clark, 2000; Dillon & Dillon, 1961; Douglass, 1929; Downie & Arnett, 1996; Duckett, 1920; Fabricius, 1801; Felt, 1907; Furth, 1985; Hamilton, 1895; Hopkins, 1893; Johnson, 1916; Kirk, 1970; Kirk & Balsbaugh, 1975; Peck & Thomas, 1998; Popenoe, 1877; Riley & Enns, 1979; Rouse & Medvedev, 1972; Scherer, 1974; Smith, 1900, 1910a; Steyskal, 1951; Stirrett, 1924; Ulke, 1903; Wickham, 1897; Wilcox, 1954, 1979).

This beetle species has also been reported from *Aralia spinosa* L. (Araliaceae); dogwood [*Cornus*] (Cornaceae); *Cercis canadensis* L., yellow locust [*Robinia pseudoacacia* L.] (Fabaceae); oak [*Quercus*] (Fagaceae); corn [*Zea mays* L.] (Poaceae); *Ceanothus* (Rhamnaceae); and *Vitis rotundifolia* Michx. (Vitaceae) (Banks, 1912; Blatchley, 1910, 1924a; Duckett, 1920; Everly, 1938; Flowers *et al.*, 1994; Hopkins, 1893; Kirk, 1969; Lee, 1949; McGiffin & Neunzig, 1985; Neiswander, 1931; Stirrett, 1924). However, these occurrences were probably incidental.

***Orthaltica melina* Horn.** This species occurs on *Rhus copallina* L., *R. glabra* L., and *Toxicodendron radicans* (L.) Kuntze (Anacardiaceae) (Clark, 2000; Downie & Arnett, 1996; Furth, 1985; Riley & Enns, 1979; Scherer, 1974). Additionally, in previously unpublished investigations, we have identified multiple series of this beetle species that were collected by Thomas O. Robbins from *Rhus lanceolata* (Gray) Britt. in central Texas.

***Orthaltica parkeri* White.** This species has been collected from *Rhus* (Anacardiaceae) (Scherer, 1974; Furth, 1985; White, 1942a).

***Orthaltica reticollis* (LeConte).** In the United States, this species is associated with *Rhus laurina* Nutt., *R. ovata* S. Wats., and *Toxicodendron diversilobum* (J. Torr. & A. Gray) E. L. Green (Anacardiaceae) (Andrews & Gilbert, 1993; Carr, 1988; Furth, 1985; Hatch, 1971; Scherer, 1974; White, 1942a). In the Baja California Peninsula of Mexico, it has further been associated with *Rhus integrifolia* (Nutt. ex Torr. & A. Gray) Benth. & Hook. f. ex Rothr. (Andrews & Gilbert, 1993).

***Oulema arizonae* (Schaeffer).** Larvae have been reported from a flower of *Commelina erecta* L. (Commelinaceae) (White, 1993). This beetle species has also been recorded from *Barkleyanthus salicifolius* (Kunth) H. E. Robins. & Brett (Asteraceae) (White, 1993), but this occurrence was likely adventitious.

***Oulema brunnicollis* (Lacordaire).** This species has been recorded from *Cirsium horridulum* Michx. (Asteraceae) (Beutenmüller, 1890a; Blatchley, 1913, 1924a; Schwarz, 1878; Smith, 1900, 1910a; White, 1993). It has also been reported from live oak [*Quercus*] (Fagaceae) (Blatchley, 1924a; Dozier, 1918), but this association was likely incidental, and it may have been based on misidentified beetles.

***Oulema collaris* (Say).** This species has been associated with Commelinaceae, including *Commelina communis* L., *Tradescantia ohiensis* Raf., *T. subaspera* Ker Gawl., *T. virginiana* L., and *T. virginica* Walker (Balsbaugh & Hays, 1972; Blatchley, 1910, 1924a; Clark, 2000; Dillon & Dillon, 1961; Hendrickson, 1930b; Maltby *et al.*, 1973; Popenoe, 1877; Say, 1824; Schmitt, 1988; White, 1993; Wilcox, 1954, 1979). In previously unpublished investigations, we have collected adults from *Tradescantia hirsutiflora* Bush in Texas. Andrew H. Williams (pers. comm.), working in Wisconsin, confirms the association with *T. ohiensis*, having found *O. collaris* feeding in flower buds of this plant species.

Additionally, *O. collaris* has been recorded in association with Canada thistle [*Cirsium arvense* (L.) Scop.] and *Cirsium lanceolatum* (L.) Scop., non Hill. [*C. vulgare* (Savi) Tenn.] (Asteraceae) (Beutenmüller, 1890a; Clark, 2000; Coquillett, 1883; Downie & Arnett, 1996; Smith, 1900, 1910a; White, 1993). This beetle species has also been reported from *Avena sativa* L. (Poaceae) (Clark, 2000; White, 1993), but this occurrence was likely incidental.

***Oulema concolor* (LeConte).** This species has been reported from brake fern [*Pteridium aquilinum* (L.) Kuhn] (Dennstaedtiaceae) (Cockerell, 1902; Essig, 1958; Pallister, 1953; Schmitt, 1988; White, 1993).

Previously unpublished observations indicate that this beetle species may possibly be associated with

Castilleja applegatei Fern. (Scrophulariaceae). In Arizona, we have swept beetles from multiple sites, and we determined that this was the only plant species occurring in all areas where *O. concolor* was found. In these areas, *C. applegatei* exhibited much feeding damage. In New Mexico, we swept this beetle species from an area where *C. applegatei* constituted the prominent vegetation.

***Oulema cornuta* (Fabricius).** This species is apparently associated with Commelinaceae, having been reported from *Commelina communis* L., *C. erecta* L., and *Tradescantia* (Balsbaugh & Hays, 1972; Clark, 2000; Löding, 1945; Schmitt, 1988; White, 1993; Wilcox, 1979). It has also been recorded from Canada thistle [*Cirsium arvense* (L.) Scop.] (Asteraceae) (Downie & Arnett, 1996).

Additionally, *O. cornuta* has been reported from *Senecio* (Asteraceae); hoary lupine [*Lupinus diffusus* Nutt.], *Vigna sinensis* (L.) Savi ex Hassk. [*V. unguiculata* Clav.] (Fabaceae); *Oryza sativa* L. and *Rhynchelytrum repens* (Willd.) C. E. Hubb. (Poaceae) (Blatchley, 1914, 1924a; Clark, 2000; Downie & Arnett, 1996; Kirk, 1970; White, 1993; Wilcox, 1979). However, these occurrences were likely incidental.

***Oulema elongata* White.** This species has been recorded from *Commelina erecta* L. and *Tradescantia* (Comelinaceae) (White, 1993).

***Oulema laticollis* White.** Both larvae and adults have been associated with a species of *Tradescantia* (Comelinaceae) reported to probably be *T. hirsuticaulis* Small (White, 1993).

***Oulema longipennis* (Linell).** This species has been associated with spiderwort [*Tradescantia*] (Comelinaceae) (Downie & Arnett, 1996; White, 1993). In previously unpublished investigations in Wisconsin, Andrew H. Williams (pers. comm.) has found this beetle species feeding on flower buds of *Tradescantia ohiensis* Raf.

***Oulema maculicollis* (Lacordaire).** This species has been reported from sweet potato [*Ipomoea batatas* (L.) Lam.] (Convolvulaceae) (White, 1993). However, this occurrence was likely incidental.

***Oulema melanopus* (Linnaeus).** This species feeds on Poaceae, having been recorded from *Agrostis alba* L., *Alopecurus pratensis* L., bunchgrass [*Andropogon* or a similar genus], *Arrhenatherum elatius* (L.) P. Beauv. ex J. Presl & C. Presl, *Avena fatua* L., *A. sativa* L., *Brachypodium pinnatum* (L.) Beauv., *Bromus popovii* Drov. [*Bromus hordeaceus* L.], *B. inermis* Leyss., red brome [*B. rubens* L.], downy brome [*B. tectorum* L.], *B. tomentellus* Boiss., *Dactylis glomerata* L., *Echinochloa frumentacea* (Roxb.) Link, *Elymus repens* (L.) Gould, *Festuca arundinacea* Schreb., *F. gigantea* (L.) D. Vill., *F. ovina* L., *F. rubra* L., *F. sclerophylla* Bois. & Hohen., *Hordeum murinum* L., *H. vulgare* L., *Lolium perenne* L., *Oryza sativa* L., switchgrass [*Panicum virgatum* L.], *Phalaris arundinacea* L., *P. canariensis* L., *Phleum pratense* L., Canadian bluegrass [*Poa compressa* L.], *Poa pratensis* L., *Secale cereale* L., *Setaria italica* (L.) P. Beauv., *Sorghum vulgare* Pers. [*Sorghum bicolor* (L.) Moench], Johnson grass [*S. halepense* (L.) Pers.], *S. sudanense* (Piper) Stapf, *Triticum aestivum* L., *T. durum* Desf., *T. spelta* L., and *Zea mays* L. (Anonymous, 1958a, 1963a, 1970d, 1994, 2002; Arnett, 1985; Bailey et al., 1991; Baniecki & Weaver, 1972; Batra et al., 1981; Borror & White, 1970; Borror et al., 1989; Castro & Guyer, 1963; Castro & Ring, 1963; Castro et al., 1965; Cath & Turner, 1963; Cavey, 1987; Clark, 2000; Clausen, 1978; Crowson, 1981; Dahms, 1968; Davidson & Lyon, 1987; Dearborn & Donahue, 1993; Dowdy, 1966; Favinger & Wilson, 1963; Gentry, 1965; Gomulinski, 1967; Haynes & Gage, 1981; Hilterhaus, 1965; Hodson, 1929; Hunt & Baker, 1982; Jolivet, 2001; Jolivet & Petitpierre, 1980; Karren, 1986a, 1993; Kennedy & Laemmlen, 1979; Lawson, 1991; Lopatin, 1984; Manson, 1963; Manson & Boyce, 1968; McClanahan et al., 1968; McPherson, 1983; Metcalf & Metcalf, 1993; Monrós, 1959a; Nault et al., 1978; Panella et al., 1974; Papp, 1984; Pedigo, 1996; Riley & Enns, 1979; Riley et al., 2002; Ruppel, 1964; Ruppel & Castro, 1963; Ruppel & Remington, 1964; Ruppel & Ring, 1963a, 1963b, 1965; Ruppel & Turner, 1965a, 1965b; Ruppel et al., 1963; Schmitt, 1988; Sengupta, 1957; Shade & Wilson, 1967; Staines, 1997; Steidl et al., 1979; Steinhäusen, 1996; Swan & Papp, 1972; Vail et al., 2001; Venturi, 1942; Vig, 1992b, 1997; Vig & Rozner, 1996; Wadleigh, 1980; Wellso & Hoxie, 1988; White, 1993; Wilcox, 1979; Wilson, 1964; Wilson & Shade, 1964a, 1964b, 1966). In previously unpublished field work in Missouri, we have collected this beetle species by sweeping *Bromus arvensis* L.

Under experimental conditions, *O. melanopus* survived at least reasonably well on several of the plants mentioned above and also on *Digitaria filiformis* (L.) Koeler and *Setaria faberi* Herrm. (Poaceae) (Shade & Wilson, 1967; Staines, 1997; Steidl et al., 1979; Webster & Smith, 1971; Wilson & Shade, 1964b, 1966).

Beyond Poaceae, *O. melanopus* has been swept from alfalfa [*Medicago sativa* L.] and red clover [*Trifolium pratense* L.] (Fabaceae) (Drees, 1977a; Meyer, 1980a; Wadleigh, 1980). These plants are probably not hosts. However, in the laboratory, larvae have completed their development on *Pisum sativum* L. (Fabaceae), although adults did not oviposit or feed on this plant (Castro et al., 1965; Wilson, 1964).

Jones (1969) recorded *O. melanopus* from a nursery block of taxus [*Taxus*] (Taxaceae). Even so, the beetles were probably not feeding on this plant. Favinger (1964) reported aestivating adults from soybean [*Glycine max* (L.) Merr.] (Fabaceae), but he did not suggest a host plant relationship. Beetles have been found in shipments of cabbage [*Brassica oleracea* L.] (Brassicaceae), *Convallaria* (Liliaceae), and rose bush

[*Rosa*] (Rosaceae) (Anonymous, 1960o, 1961u), but these plants should not be regarded as hosts.

In the Old World, *O. melanopus* has also been reported from *Carduus macrocephalus* Desf. [*C. nutans* L.], *C. pycnocephalus* L., *C. tenuiflorus* W. Curt., *Centaurea*, sunflower [*Helianthus*], *Senecio aquaticus* Hill, *S. erraticus* Bert., *S. jacobaea* L. (Asteraceae); heliotrope [*Heliotropium* (Boraginaceae) or *Valeriana* (Valerianaceae)]; *Cardaria draba* (L.) Desv. (Brassicaceae); hemp [*Cannabis sativa* L.] (Cannabaceae); beet [*Beta vulgaris* L.] (Chenopodiaceae); *Convolvulus arvensis* L. (Convolvulaceae); melon [likely *Citrullus lanatus* (Thunb.) Matsum. & Nakai or *Cucumis melo* L.] (Cucurbitaceae); *Lythrum salicaria* L. (Lythraceae); and *Salix alba* L. (Salicaceae) (Batra *et al.*, 1981, 1986; Campobasso *et al.*, 1999; Castro *et al.*, 1965; Goeden, 1974; Hodson, 1929; Mölleken & Topp, 1997; Pemberton & Hoover, 1980; Sengupta, 1957). However, at least most of these occurrences were surely incidental.

***Oulema palustris* (Blatchley).** This species is reported to occur on *Cirsium altissimum* (L.) Spreng. and *C. arvense* (L.) Scop. (Asteraceae) (Clark, 2000; Downie & Arnett, 1996; Frost, 1929; Hicks, 1945; Schaeffer, 1928a; White, 1993; Wilcox, 1979). It has also been recorded from *Tradescantia* (Commelinaceae) (White, 1993). Additionally, it has been reported from calla lily blossoms [likely *Calla palustris* L. or *Zantedeschia aethiopica* (L.) Spreng.] (Araceae), morning glory [likely *Calystegia*, *Convolvulus*, or *Ipomoea*] (Convolvulaceae), oats [*Avena*] (Poaceae), and potato [*Solanum tuberosum* L.] (Solanaceae) (Anonymous, 1970e, 1971a; White, 1993), but these occurrences were probably adventitious.

In previously unpublished investigations in Missouri, we have found adults of *O. palustris* on *Cirsium discolor* (Muhl. ex Willd.) Spreng., and a captive beetle fed extensively on leaves of this plant. In Texas, we have collected adults from *Cirsium texanum* Buckl. and *Tradescantia hirsutiflora* Bush. Additionally, each of three specimens examined from Gonzales County in Texas have a “cocoon” mounted with them and carry a label that reads, “*Tradescantia* linear mines.”

***Oulema sayi* (Crotch).** This species is associated with Commelinaceae, including *Commelina communis* L., *C. virginica* L. [*C. erecta* L.], and *Tradescantia virginiana* L. (Balsbaugh & Hays, 1972; Blatchley, 1910; Clark, 2000; Downie & Arnett, 1996; Kirk, 1970; Richardson, 1892; Schmitt, 1988; Ulke, 1903; White, 1993; Wilcox, 1954, 1979). In previously unpublished field work, we have found adults on *Commelina diffusa* Burm. f. This beetle species has also been recorded from *Carduus spinosissimus* Walt. [*Cirsium horridulum* Michx.] (Asteraceae) (Rosewall, 1922; White, 1993).

Additionally, *O. sayi* has been reported from elder [*Sambucus*] (Caprifoliaceae); *Ipomoea batatas* (L.) Lam. (Convolvulaceae); *Carex* (Cyperaceae); *Phaseolus vulgaris* L. (Fabaceae); *Phragmites*, *Saccharum officinarum* L. (Poaceae); *Rubus* (Rosaceae); and *Citrus sinensis* (L.) Osbeck (Rutaceae) (Downie & Arnett, 1996; Richardson, 1892; White, 1993; Wilcox, 1979). However, these are not normal hosts.

***Oulema simulans* (Schaeffer).** This species has been associated with *Commelina erecta* L. (Commelinaceae) (Downie & Arnett, 1996; Kaufmann, 1967; Olmstead, 1994; Thompson, 1966; White, 1993). In previously unpublished field work in Illinois and Missouri, we have found adults in association with *C. communis* L. and *C. diffusa* Burm. f.

***Oulema texana* (Crotch).** This species has been reported from *Carex* (Cyperaceae), *Clitoria mariana* L. (Fabaceae), and Johnson grass [*Sorghum halepense* (L.) Pers.] (Poaceae) (Blatchley, 1924a; White, 1993). However, these associations were likely either incidental or based on misidentified beetles.

***Oulema variabilis* White.** This species has been recorded from flowers of *Commelina crispa* Woot. [*C. erecta* L.] (Commelinaceae) (White, 1993). In previously unpublished investigations, we confirm this association, having collected adults in Texas from *C. erecta*.

This beetle species has also been reported from *Eupatorium wrightii* A. Gray (Asteraceae), sedge [Cyperaceae], and string bean [*Phaseolus vulgaris* L.] (Fabaceae) (White, 1993), but these plants are probably not true hosts. A specimen has also been collected by sweeping vegetation that included grass [Poaceae] (White, 1993), but sweeping records should not necessarily be interpreted as host associations.

***Pachybrachis abdominalis* (Say).** This species has been recorded from *Rhus glabra* L. (Anacardiaceae); *Amorpha fruticosa* L., wild licorice [*Glycyrrhiza lepidota* Nutt. ex Pursh], alfalfa [*Medicago sativa* L.] (Fabaceae); *Rumex crispus* L. (Polygonaceae); *Salix amygdaloides* Anderss. and *S. interior* Rowlee [*S. exigua* ssp. *interior* (Rowlee) Cronquist] (Salicaceae) (Kirk & Balsbaugh, 1975). In previously unpublished field work, we have confirmed the association with *Glycyrrhiza lepidota*, having collected adults from this plant in the panhandle of Texas.

***Pachybrachis alticola* Fall.** Ward *et al.* (1977) listed this species from mesquite [*Prosopis*] (Fabaceae).

***Pachybrachis analis* LeConte.** This species has been reported from *Adenostoma* (Rosaceae) (Moore, 1937). In previously unpublished investigations of California populations, we have collected beetles, or seen specimens collected by reliable workers, from *Artemisia*, *Ericameria nauseosa* (Pall. ex Pursh) Nesom & Baird (Asteraceae); broom [possibly *Cytisus*] (Fabaceae); and *Adenostoma fasciculatum* Hook. & Arn. (Rosaceae).

***Pachybrachis arizonensis* Bowditch.** This species has been collected from *Salix* (Salicaceae) (Hatch, 1971; Knowlton, 1957a).

***Pachybrachis atomarius* (Melsheimer).** This species, sometimes cited as the synonym *P. infaustus* Hal-deman, has been reported from *Rhus glabra* L. (Anacardiaceae); *Ambrosia trifida* L. (Asteraceae); *Euonymus atropurpureus* Jacq. (Celastraceae); *Amorpha canescens* Pursh, *Prosopis juliflora* (Sw.) DC. [*P. glandulosa* J. Torr.], yellow locust [*Robinia pseudoacacia* L.] (Fabaceae); and willow [*Salix*] (Salicaceae) (Andrews, 1923; Balsbaugh & Hays, 1972; Barney, 1984; Blatchley, 1910; Fall, 1915; Harris & Piper, 1970; Hopkins, 1893; Townsend, 1892; Wilcox, 1979). Additionally, Webster (1881) included this beetle species in a list of chrysomelids collected from either *Salix discolor* Muhl. or *S. petiolaris* J. E. Sm. (Salicaceae). In previously unpublished investigations, we have seen four specimens of *P. atomarius* labeled from Michigan in association with *Quercus velutina* Lam. (Fagaceae).

Beyond these associations, *P. atomarius* has been reported from *Ceanothus americanus* L. (Rhamna-ceae) (Banks, 1912; Robertson, 1889b; Smith, 1900, 1910a), but Fall (1915) doubted that the identification of at least some of the beetles was correct. Wilcox's (1979) listing of *P. atomarius* from *Ceanothus* may have simply been based on the earlier possible misidentifications. Additionally, *P. atomarius* has been swept from low huckleberry [*Gaylussacia*] (Ericaceae) (Blatchley, 1924a), but sweeping records should not necessarily be interpreted as host associations.

***Pachybrachis bivittatus* (Say).** Normal hosts are species of *Salix* (Salicaceae), including *S. interior* Rowlee [*S. exigua* ssp. *interior* (Rowlee) Cronquist] (Balsbaugh & Hays, 1972; Barney, 1984; Beller & Hatch, 1932; Burke *et al.*, 1974; Carr, 1988; Downie & Arnett, 1996; Dozier, 1922; Essig, 1958; Fall, 1915; Hatch, 1971; Ives & Wong, 1988; Kirk, 1970; Kirk & Balsbaugh, 1975; Knowlton, 1939, 1957a; Lawson, 1976a, 1991; LeSage, 1985; Papp, 1984; Riley & Enns, 1979; Swan & Papp, 1972; Wilcox, 1954, 1979; Wray, 1950, 1967). The larvae feed on the dead or dying *Salix* leaves that accumulate on the ground below the plants (Balsbaugh, 1988; LeSage, 1985). This beetle species is also reported to occur occasionally on *Populus* (Salicaceae) (Riley & Enns, 1979).

Beyond Salicaceae, *P. bivittatus* has been reported from *Gutierrezia sarothrae* (Pursh) N. L. Britt. & Rusby (Asteraceae), *Mentha x piperita* L. (Lamiaceae), and grass [Poaceae] (Beller & Hatch, 1932; Blatch-ley, 1910; Carr, 1988; Fall, 1915; Jaques, 1951; Wilcox, 1979). However, these were probably incidental occurrences.

***Pachybrachis brevicollis* LeConte.** Riley & Enns (1979) reported that "*P. ? brevicollis*" had been col-lected repeatedly from *Rhus glabra* L. (Anacardiaceae).

***Pachybrachis brevicornis* Fall.** In previously unpublished investigations, we have collected adults from *Prosopis glandulosa* J. Torr. (Fabaceae) in Texas.

***Pachybrachis brunneus* Bowditch.** This species has been reported in association with *Baccharis sal-icifolia* (Ruíz & Pav.) Pers. (Asteraceae) (Boldt & Robbins, 1990). In previously unpublished investigations, we have collected a small series of *P. brunneus* from *Salix* (Salicaceae) in Arizona.

***Pachybrachis bullatus* Fall.** This species is reported to feed on wild gooseberry [*Ribes*] (Grossulariace-ae) (Essig, 1958; Fall, 1915). In previously unpublished investigations, we have seen two specimens labeled from Arizona in association with *Quercus hypoleucoides* A. Camus (Fagaceae).

***Pachybrachis caelatus* LeConte.** This species has been reported from *Ericameria nauseosa* (Pall. ex Pursh) Nesom & Baird and *Gutierrezia sarothrae* (Pursh) N. L. Britt. & Rusby (Asteraceae) (Hatch, 1971; Horning & Barr, 1970). In New Jersey, which is beyond the generally accepted range of this beetle species, "*Pachybrachys*, near *caelatus* Lec." has been associated with *Myrica cerifera* L. (Myricaceae) (Chittenden, 1892).

In previously unpublished field work, we have collected a small series of *P. caelatus* (six specimens) in California from *Artemisia* (Asteraceae). Records maintained by the USDA-ARS Grassland, Soil and Water Research Laboratory state that adults of *P. caelatus* have been collected in Texas from foliage of *Gutierrezia dracunculoides* (DC.) Hoffm. and *G. texana* (DC.) Torr. & Gray (Asteraceae), and that adults of "*Pachybra-chis* sp. near *caelatus*" have been swept from foliage of *Flourensia cernua* DC. (Asteraceae) in Arizona and have been swept from foliage or found feeding on leaves of *Hymenoxys odorata* DC. (Asteraceae) in Texas (Thomas O. Robbins, pers. comm.).

***Pachybrachis calcaratus* Fall.** In previously unpublished investigations, we have seen specimens labeled from Ohio in association with *Lythrum salicaria* L. (Lythraceae). In a personal communication from the collec-tor, Foster F. Purrington, he has indicated that the beetles were indeed nibbling on this introduced plant.

***Pachybrachis calidus* Fall.** This species has been recorded from catsclaw [*Acacia* or *Schrankia*], *Proso-pis glandulosa* J. Torr., and *P. laevigata* (Humb. & Bonpl. ex Willd.) M. C. Johnst. (Fabaceae) (Essig, 1958; Fall, 1915; Ward *et al.*, 1977). In previously unpublished investigations, we have seen specimens labeled from Arizona in association with *Quercus utahensis* Rydb. (Fagaceae).

***Pachybrachis californicus* Fall.** This species has been reported from *Symphoricarpos* (Caprifoliaceae), *Ceanothus cuneatus* (Hook.) Nutt. (Rhamnaceae), and *Adenostoma fasciculatum* Hook. & Arn. (Rosaceae) (Carr, 1988). In previously unpublished investigations, we confirm the association with *A. fasciculatum*, having collected a large series in California from this plant. We have also collected a single specimen from *Salix* (Salicaceae).

***Pachybrachis characteristicus* Suffrian.** This species has been recorded from oak [*Quercus*] (Fagaceae) (Löding, 1945).

***Pachybrachis circumcinctus* Crotch.** This species has been reported from *Alnus rhombifolia* Nutt. (Betulaceae) and *Salix* (Salicaceae) (Carr, 1988).

***Pachybrachis coloradensis* Bowditch.** In previously unpublished investigations, we have seen specimens labeled from Idaho in association with *Bassia* (Chenopodiaceae).

***Pachybrachis confederatus* Fall.** This species has been reported from cotton [*Gossypium*] (Malvaceae) (Erber, 1988; Folsom, 1936a; Rouse & Medvedev, 1972).

***Pachybrachis connexus* Fall.** In previously unpublished field work in California, we have collected a large series from *Eriogonum* (Polygonaceae). Additionally we have seen specimens labeled from California in association with *E. inflatum* J. Torr. & Frem.

***Pachybrachis contractifrons* Fall.** In previously unpublished investigations, we have seen *P. contractifrons* labeled from Arizona in association with *Rhus choriophylla* Woot. & Standl. (Anacardiaceae) and *Calliandra* (Fabaceae).

***Pachybrachis convictus* Fall.** In previously unpublished field work in California, we have collected a series (eleven specimens) from *Aesculus californica* (Spach) Nutt. (Hippocastanaceae) and a smaller series (four specimens) from *Adenostoma fasciculatum* Hook. & Arn. (Rosaceae).

***Pachybrachis crassus* Bowditch.** This species has been reported from *Rhus* (Anacardiaceae) (Carr, 1988).

***Pachybrachis cruentus* LeConte.** In previously unpublished field work, we have collected adults of this species from *Quercus fusiformis* Small (Fagaceae) in central Texas.

***Pachybrachis cylindricus* Bowditch.** In previously unpublished investigations, we have seen *P. cylindricus* labeled from Arizona and Utah in association with *Juniperus* (Cupressaceae).

***Pachybrachis desertus* Fall.** This species has been reported from *Larrea* (Zygophyllaceae) (Moore, 1937). In previously unpublished field work in California, we have collected a large series from *Hymenoclea salsola* J. Torr. & A. Gray (Asteraceae). We have also collected specimens in Baja California from *Encelia* (Asteraceae) and *Larrea tridentata* (Sesse & Moçino ex DC.) Coville (Zygophyllaceae).

***Pachybrachis dilatatus* Suffrian.** This species has been recorded from *Quercus* (Fagaceae) (Kirk, 1969, 1970; Wilcox, 1979).

***Pachybrachis discoideus* Bowditch.** This species has been recorded from *Gaylussacia* (Ericaceae) and *Quercus* (Fagaceae) (Blatchley, 1914, 1924a; Clark, 2000).

***Pachybrachis diversus* Fall.** This species has been associated with *Baccharis salicifolia* (Ruíz & Pav.) Pers. and *B. salicina* J. Torr. & A. Gray (Asteraceae) (Boldt & Robbins, 1990, 1994). Additionally, a large series has been collected by sweeping *Salix* (Salicaceae) (Riley & Enns, 1979). Beyond this, Goeden & Ricker (1989) reported that adults of "*Pachybrachis* sp. nr. *diversus*" occur rarely on *Bebbia juncea* (Benth.) E. L. Greene (Asteraceae).

In previously unpublished investigations, we have found that *P. diversus* is normally associated with *Salix* (Salicaceae). However, we have also collected a series of adults from *Heterotheca subaxillaris* (Lamb.) N. L. Britt. & Rusby (Asteraceae) along the coast of southern Texas. Additionally, we have seen adult specimens labeled from Kansas in association with sunflower [*Helianthus*] (Asteraceae). Records maintained by the USDA-ARS Grassland, Soil and Water Research Laboratory state that adults have been collected from foliage of *Baccharis neglecta* Britt. (Asteraceae) (Thomas O. Robbins, pers. comm.).

***Pachybrachis donneri* Crotch.** This species is apparently associated with Salicaceae, having been reported from *Populus trichocarpa* J. Torr. & A. Gray ex Hook. and *Salix* (Beller & Hatch, 1932; Carr, 1988; Crotch, 1874; Essig, 1958; Fall, 1915; Hatch, 1971; Jaques, 1951).

***Pachybrachis dubiosus* LeConte.** Records maintained by the USDA-ARS Grassland, Soil and Water Research Laboratory state that an adult has been found in Nuevo Leon, Mexico feeding on foliage of *Baccharis pteronioides* DC. (Asteraceae) (Thomas O. Robbins, pers. comm.).

***Pachybrachis duryi* Fall.** In previously unpublished field work, we have collected many adults of this species from *Leucaena pulverulenta* (Schlecht.) Benth. (Fabaceae) in southern Texas.

***Pachybrachis femoratus* (Olivier).** The host is reported to be *Quercus nigra* L. (Fagaceae) (Balsbaugh & Hays, 1972; Blatchley, 1924a; Clark, 2000; Fall, 1915; Wilcox, 1979). However, this beetle species has also been recorded from *Trifolium pratense* L. (Fabaceae), *Carya* (Juglandaceae), and pine [*Pinus*] (Pinaceae)

(Beutenmüller, 1890a; Blatchley, 1924a; Clark, 2000; Fall, 1915; Felt, 1907; Haldeman, 1849; Harrington, 1884; Niemczyk & Guyer, 1963; Wilcox, 1979). Fall (1915) questioned the identification of beetles associated with *Carya*.

In Mexico, *P. femoratus* has been recorded from *Parkinsonia aculeata* L. (Fabaceae) (Woods, 1992). In Costa Rica, associations have been reported with *Arracacia xanthorrhiza* Bancroft (Apiaceae), *Zinnia elegans* Jacq. (Asteraceae), *Cupressus benthami* Endl. (Cupressaceae), *Asparagus officinalis* L. (Liliaceae), *Hibiscus rosa-sinensis* L. (Malvaceae), *Psidium guajava* L. (Myrtaceae), *Sterculia diversifolia* Boerl. & Koorders (Sterculiaceae), *Lippia berlandieri* Schauer (Verbenaceae), and *Vitis tiliacifolia* Humb. & Bonpl. (Vitaceae) (Ballou, 1936). However, the occurrence of *P. femoratus* in Latin America is somewhat doubtful.

Kirk (1970) reported “*Pachybrachis* possibly *femoratus*” swept from lespedeza [*Lespedeza*] (Fabaceae). However, sweeping records should not necessarily be interpreted as host associations. In Mexico, “*Pachybrachis* nr. *femorata*” is reported to occur rarely on *Parthenium hysterophorus* L. (Asteraceae) (McClay *et al.*, 1995).

***Pachybrachis fortis* Fall.** In previously unpublished field work, we have collected this species from *Mimosa* (Fabaceae) in Arizona.

***Pachybrachis fuscipes* Fall.** This species has been associated with *Pinus ponderosa* Dougl. ex Lawson & C. Lawson (Pinaceae) (Carr, 1988; Essig, 1958; Fall, 1915). Additionally, records maintained by the USDA-ARS Grassland, Soil and Water Research Laboratory state that adults in Cochise County, Arizona have been swept from foliage of *Flourensia cernua* DC. (Asteraceae) (Thomas O. Robbins, pers. comm.).

***Pachybrachis haematodes* Suffrian.** In previously unpublished investigations, we have collected adults of this species by beating blooming *Acacia rigidula* Benth. (Fabaceae) in Texas. Also in Texas, we have collected adults from *Quercus fusiformis* Small and *Q. mohriana* Buckl. ex Rydb. (Fagaceae). Additionally, we have identified adults that were collected by Thomas O. Robbins from *Q. glaucoides* auct. non Mart. & Gal. [*Q. laceyi* Small] in central Texas.

***Pachybrachis hector* Fall.** In previously unpublished investigations, we have collected this species in Texas by beating blooming *Acacia rigidula* Benth. (Fabaceae).

***Pachybrachis hepaticus* (Melsheimer).** This species has been reported from *Lespedeza*, *Medicago sativa* L., clover [likely *Trifolium*] (Fabaceae); *Juncus* (Juncaceae); willow [*Salix*] (Salicaceae); and *Tamarix gallica* L. (Tamaricaceae) (Andrews, 1923; Carr, 1988; Dozier, 1922; Hefley, 1937; Kirk, 1970; Wilcox, 1979). In previously unpublished field work in California, we have collected several specimens from *Franseria* (Asteraceae) and a large series from *Croton californicus* Muell. Arg. (Euphorbiaceae).

***Pachybrachis hybridus* Suffrian.** This species has been recorded from *Achillea millefolium* L., *Artemisia californica* Less., *Baccharis pilularis* DC. (Asteraceae); *Erica* (Ericaceae); tree mallow [*Lavatera arborea* L.] (Malvaceae); *Eriogonum latifolium* J. E. Sm. (Polygonaceae); *Adenostoma fasciculatum* Hook. & Arn. and *Rosa* (Rosaceae) (Carr, 1988; Erber, 1988; Essig, 1958; Fall, 1915; Moore, 1937; Sweet, 1930; Tilden, 1951). In previously unpublished field work in California, we confirm the association with *A. fasciculatum*, having collected *P. hybridus* commonly from this plant.

***Pachybrachis immaculatus* Jacoby.** In Mexico, larvae and adults have been found occasionally on *Parthenium hysterophorus* L. (Asteraceae) (McClay *et al.*, 1995).

***Pachybrachis impurus* Suffrian.** In previously unpublished investigations, we have seen two specimens labeled from Missouri in association with *Diospyros virginiana* L. (Ebenaceae).

***Pachybrachis insidiosus* Fall.** This species is reported to occur on date palm [*Phoenix dactylifera* L.] (Arecaceae) (Fall, 1915).

***Pachybrachis integratus* Fall.** Goeden & Ricker (1989) reported that adults of “*P. sp. nr. integratus* poss. nov.” occur rarely on *Bebbia juncea* (Benth.) E. L. Greene (Asteraceae). In previously unpublished investigations, we have seen a specimen of *P. integratus* labeled from California in association with *Salix* (Salicaceae).

***Pachybrachis jacobyi* Bowditch.** This species has been reported from *Hymenoclea* (Asteraceae), *Atriplex* (Chenopodiaceae), and *Adenostoma fasciculatum* Hook. & Arn. (Rosaceae) (Carr, 1988; Hatch, 1971; Moore, 1937).

***Pachybrachis laevis* Bowditch.** This species may be associated with Fabaceae. Ward *et al.* (1977) reported *P. laevis* “or near” from *Prosopis glandulosa* J. Torr. and *P. laevigata* (Humb. & Bonpl. ex Willd.) M. C. Johnst.

***Pachybrachis latithorax* Clavareau.** In previously unpublished field work in southern Texas, we have collected adults of this species from *Acacia angustissima* var. *hirta* (Nutt.) B. L. Robbins, *A. rigidula* Benth., and *Leucaena pulverulenta* (Schlecht.) Benth. (Fabaceae).

***Pachybrachis liebecki* Fall.** This species has been reported from *Salix* (Salicaceae) (Kirk & Balsbaugh, 1975).

Pachybrachis litigious Suffrian. This species has been reported from *Alnus* (Betulaceae), wild bean [*Phaseolus* or a similar genus] (Fabaceae), and grass [Poaceae] (Balsbaugh & Hays, 1972; Blatchley, 1924a; Clark, 2000; Whelan, 1936; Wilcox, 1979).

Pachybrachis livens LeConte. This species is reported to live on *Salix* (Salicaceae) (Beutenmüller, 1890a; Carr, 1988; Essig, 1958; Fall, 1901, 1915; Felt, 1907; Packard, 1890). In previously unpublished investigations, we confirm the association with this plant, having found *P. livens* to be commonly associated with *Salix*.

Pachybrachis lodingi Bowditch. This species has been collected from *Ambrosia* (Asteraceae) (Balsbaugh & Hays, 1972; Clark, 2000; Harris & Piper, 1970; Löding, 1945; Wilcox, 1979). In previously unpublished investigations, we have seen two specimens labeled from Florida in association with *Quercus* (Fagaceae).

Pachybrachis longus Bowditch. This species has been listed from mesquite [*Prosopis*] (Fabaceae) (Ward *et al.*, 1977). Beyond this, records maintained by the USDA-ARS Grassland, Soil and Water Research Laboratory state that adults of “*Pachybrachis* sp. prob. *longus* Bowditch” have been collected from foliage of *Prosopis glandulosa* J. Torr. (Thomas O. Robbins, pers. comm.).

Pachybrachis luctuosus Suffrian. This species has been reported from *Pinus virginiana* P. Mill. (Pinaceae) (Balsbaugh & Hays, 1972; Clark, 2000; Wilcox, 1979).

Pachybrachis luridus (Fabricius). This species is associated with *Baptisia* (Fabaceae), with specific records from *B. leucantha* J. Torr. & A. Gray and *B. tinctoria* (L.) R. Br. (Beutenmüller, 1890a; Blatchley, 1910, 1924a; Carr, 1988; Clark, 2000; Downie & Arnett, 1996; Fall, 1915; Frost, 1945; Haldeman, 1849; Harris, 1841, 1863; Riley & Enns, 1979; Wilcox, 1954, 1979). Additionally, it has been collected from *Amorpha canescens* Pursh (Fabaceae) (Barney, 1984; Hendrickson, 1930b).

This beetle species has also been recorded from *Senecio* (Asteraceae); *Desmodium* (Fabaceae); *Quercus nigra* L. (Fagaceae); grass [Poaceae]; *Ceanothus americanus* L. and “*Ceanothus tinctoria*” (Rhamnaceae) (Barney, 1984; Blatchley, 1910, 1924a; Carr, 1988; Clark, 2000; Downie & Arnett, 1996; Fall, 1915; Frost, 1945; Kirk, 1969; Whelan, 1936; Wilcox, 1954, 1979).

In previously unpublished field work, we have found *P. luridus* on young leaflets of *Baptisia australis* (L.) R. Br. (Fabaceae) in Missouri, we have beaten a large series from *Quercus nigra* (Fagaceae) in east-central Texas, we have collected smaller numbers from *Q. fusiformis* Small in central Texas, and we have collected adults from *Ziziphus obtusifolia* A. Gray (Rhamnaceae) in southern Texas. Andrew H. Williams (pers. comm.) has found this beetle species feeding on *Ceanothus americanus* (Rhamnaceae), and has found adults, without specific mention of feeding, on *C. ovatus* auct. [*C. herbaceus* Raf.].

Pachybrachis lustrans LeConte. This species has been recorded from *Ceanothus cuneatus* (Hook.) Nutt. (Rhamnaceae) (Carr, 1988; Essig, 1958; Fall, 1915; Hopping, 1899; Wilcox, 1979). In previously unpublished field work in California, we have collected a few specimens from *Adenostoma* (Rosaceae) and a few others from *Salix* (Salicaceae).

Pachybrachis macronychus Fall. In previously unpublished investigations, we have seen specimens labeled from Texas in association with *Pinus cebroides* Zucc. (Pinaceae).

Pachybrachis marginatus Bowditch. Records maintained by the USDA-ARS Grassland, Soil and Water Research Laboratory state that an adult has been swept from foliage of *Baccharis bigelovii* A. Gray (Asteraceae) in Cochise County, Arizona (Thomas O. Robbins, pers. comm.).

Pachybrachis marginipennis Bowditch. This species has been recorded from *Adenostoma* (Rosaceae) (Moore, 1937). In previously unpublished field work in California, we have associated adults with *A. fasciculatum* Hook. & Arn.

Pachybrachis marmoratus Jacoby. In previously unpublished investigations, we have seen a specimen labeled from Arizona in association with *Ericameria nauseosa* (Pall. ex Pursh) Nesom & Baird (Asteraceae) and another labeled from Baja California in association with *Hymenoclea monogyra* J. Torr. & Gray ex A. Gray (Asteraceae). Goeden & Ricker (1986a) reported that adults of “*Pachybrachys* sp. nr. *marmoratus*” occasionally occur on *Hymenoclea salsola* J. Torr. & A. Gray.

Pachybrachis melanostictus Suffrian. This species occurs on *Salix* (Salicaceae) (Beller & Hatch, 1932; Carr, 1988; Essig, 1958; Fall, 1915; Hatch, 1971; Jaques, 1951; Knowlton, 1939). It has also been reported from *Artemisia tridentata* Nutt., *Cirsium arvense* (L.) Scop., *Senecio serra* Hook. (Asteraceae); *Atriplex nuttallii* S. Wats. (Chenopodiaceae); and *Ceanothus* (Rhamnaceae) (Carr, 1988; Hopping, 1899; Horning & Barr, 1970; Story *et al.*, 1985). Knowlton (1957a) recorded “*Pachybrachys* sp. near *melanostictus*” from *Salix*.

In previously unpublished investigations in California, we confirm the association with *Salix*, the occurrence of *P. melanostictus* on this plant being common. Additionally, we have seen specimens labeled from California in association with “*Ceanothus divaricata*” [*C. divaricatus* Boland (= *C. cordulatus* Kellogg) or *C. divaricatus* Nutt. (= *C. oliganthus* Nutt.)], *Rhamnus crocea* Nutt. (Rhamnaceae); and *Adenostoma fascicu-*

latum Hook. & Arn. (Rosaceae). Also, we have seen a couple of specimens labeled from Baja California in association with *Haplopappus sonorensis* (A. Gray) S. F. Blake (Asteraceae).

***Pachybrachis mellitus* Bowditch.** This species has been recorded from *Gutierrezia sarothrae* (Pursh) N. L. Britt. & Rusby (Asteraceae) (Carr, 1988; Tanner, 1928). Additionally, Goeden & Teerink (1993) reported that it occurs rarely on *Dicoria canescens* A. Gray (Asteraceae).

In previously unpublished investigations, both in California and in Baja California, we have associated *P. mellitus* with *Larrea divaricata* Cav. (Zygophyllaceae). Records maintained by the USDA-ARS Grassland, Soil and Water Research Laboratory state that adults in Arizona, California, Nevada, and New Mexico have been “swept from foliage or feeding on leaves” of *Larrea tridentata* (Sesse & Moçño ex DC.) Coville (Thomas O. Robbins, pers. comm.).

***Pachybrachis mercurialis* Fall.** Horning & Barr (1970) recorded this species from flowers of *Chrysanthamnus viscidiflorus* (Hook.) Nutt. and *Ericameria nauseosa* (Pall. ex Pursh) Nesom & Baird (Asteraceae). Boldt & Robbins (1987) investigated the insect fauna associated with *Baccharis neglecta* Britt. (Asteraceae) and found “*Pachybrachys* sp. near *mercurialis*” to be occasionally present and to feed on leaves of this plant. In previously unpublished field work in California, we have collected a small series of *P. mercurialis* (nine specimens) from *Holocarpa heermannii* (Greene) Keck (Asteraceae).

***Pachybrachis minor* Bowditch.** In previously unpublished investigations in California and Baja California, we have found that *Ericameria nauseosa* (Pall. ex Pursh) Nesom & Baird and *Hymenoclea monogyra* J. Torr. & Gray ex A. Gray (Asteraceae) appear to be hosts.

***Pachybrachis m-nigrum* (Melsheimer).** This species has been reported from *Rhus toxicodendron* L. [*Toxicodendron radicans* (L.) Kuntze] (Anacardiaceae) and willow [*Salix*] (Salicaceae) (Downie & Arnett, 1996; Schwarz, 1890). Additionally, Valenti *et al.* (1997) recorded “*Pachybrachis* sp., nr. *m-nigrum*” in association with *Arctostaphylos patula* E. L. Greene (Ericaceae). However, their study was done in California, far outside of the known range of *P. m-nigrum* and similar species, and the beetles may have been a species very unlike *P. m-nigrum*.

***Pachybrachis morosus* Haldeman.** This species, sometimes cited as *P. pubescens* (Olivier), has been recorded from *Quercus* (Fagaceae) (Frost, 1946; Kirk, 1969; Wilcox, 1979). In previously unpublished field work in Texas, we have collected adults from *Q. buckleyi* Nixon & Dorr, *Q. fusiformis* Small, and *Q. incana* Bartr. We have also identified adults that were collected by Andrew H. Williams in Wisconsin from “black or Hill’s oak” [*Q. velutina* Lam. or *Q. ellipsoidalis* E. J. Hill].

This beetle species has also been reported from grass [Poaceae] (Whelan, 1936). Beyond this, Fall (1901) and Wickham (1902) recorded beetles from willow [*Salix*] (Salicaceae), but these associations were made in California and Colorado, beyond the generally recognized range of *P. morosus*, and the identification of the insects is therefore doubtful.

***Pachybrachis nero* Bowditch.** Foster *et al.* (1981) recorded this species in association with *Gutierrezia microcephala* (DC.) A. Gray and *G. sarothrae* (Pursh) N. L. Britt. & Rusby (Asteraceae). Records maintained by the USDA-ARS Grassland, Soil and Water Research Laboratory state that adults have been collected from both of these plants, as well as from *Gymnosperma glutinosum* (Spreng.) Less. (Asteraceae) (Thomas O. Robbins, pers. comm.).

***Pachybrachis nigricornis* (Say).** Large series of the subspecies *P. n. autolytus* Fall have been collected from *Desmodium* (Fabaceae) (Balsbaugh & Tucker, 1976; Barney, 1984; Downie & Arnett, 1996). Beyond this, Whelan (1936) reported *P. autocyclus* [sic] from grass [Poaceae]. Additionally, Dozier (1922) reported collecting this subspecies in Mississippi by sweeping *Juncus* (Juncaceae), but the identity of the beetles is questionable, Mississippi being outside of the currently recognized range of *P. n. autolytus*. In any case, sweeping records should not necessarily be interpreted as host associations.

Kumar *et al.* (1976) recorded “*Pachybrachis* sp. near *autolytus*” swept from *Gutierrezia sarothrae* (Pursh) N. L. Britt. & Rusby (Asteraceae). However, as noted above, sweeping records should not always be interpreted as host associations.

The subspecies *P. n. carbonarius* Haldeman has been recorded from *Amorpha canescens* Pursh, *Desmodium*, *Trifolium pratense* L. (Fabaceae); *Quercus* (Fagaceae); wild strawberry [*Fragaria*] and blackberry [*Rubus*] (Rosaceae) (Anonymous, 1985; Baker, 1972; Balsbaugh & Hays, 1972; Balsbaugh & Tucker, 1976; Barney, 1984; Blatchley, 1910, 1924a; Downie & Arnett, 1996; Fall, 1915; Niemczyk & Guyer, 1963; Riley & Enns, 1979; Rouse & Medvedev, 1972; Webster, 1893a; Wilcox, 1954, 1979). In previously unpublished investigations in Wisconsin, Andrew H. Williams (pers. comm.) has found this subspecies feeding on *Heuchera richardsonii* R. Br. (Saxifragaceae).

Andrews (1923) reported “*Pachybrachys autolytus* var. *difficilis* Fall” in association with willow [*Salix*] (Salicaceae). Fall’s name (*difficilis*) is now considered a subspecies of *P. nigricornis*. Additionally, Balsbaugh & Hays (1972) reported a specimen of *P. nigricornis* (subspecies not indicated) that was taken from

Leaf Beetles and Associated Plants

Senecio (Asteraceae).

***Pachybrachis nobilis* Fall.** This species has been reported from *Pinus ponderosa* Dougl. ex Lawson & C. Lawson (Pinaceae) (Essig, 1958; Fall, 1915).

***Pachybrachis nubigenus* Fall.** This species has been reported from *Baccharis* (Asteraceae) and *Salix* (Salicaceae) (Carr, 1988; Moore, 1937).

***Pachybrachis nunenmacheri* Fall.** In previously unpublished field work in Arizona, we have collected many specimens from *Mimosa* (Fabaceae) and a few specimens from *Salix* (Salicaceae).

***Pachybrachis obfuscatus* Fall.** Lee (1949) included this species in a list of insects associated with *Cercis canadensis* L. (Fabaceae).

***Pachybrachis obsoletus* Suffrian.** This species has been reported from *Cornus florida* L. (Cornaceae); *Cercis canadensis* L., *Robinia pseudoacacia* L. (Fabaceae); balsam fir [*Abies balsamea* (L.) P. Mill.], white pine [*Pinus strobus* L.], hemlock [*Tsuga*] (Pinaceae); grass [Poaceae]; *Geum*, *Rosa* (Rosaceae); and *Salix* (Salicaceae) (Balsbaugh & Hays, 1972; Barney, 1984; Blatchley, 1924a; Carr, 1988; Dearborn & Donahue, 1993; Fall, 1915; Hatch, 1924b; Lee, 1949; Riley & Enns, 1979; Wilcox, 1979).

***Pachybrachis othonus* (Say).** This species has been recorded from *Carex* (Cyperaceae); *Amorpha canescens* Pursh, *Dalea purpurea* Vent., *Desmodium* (Fabaceae); *Quercus alba* L. (Fagaceae); *Carya* (Juglandaceae); *Comptonia peregrina* (L.) Coult. (Myricaceae); *Fraxinus americana* L. (Oleaceae); evening primrose [*Oenothera*] (Onagraceae); *Pinus* (Pinaceae); grass [Poaceae]; *Ceanothus americanus* L. (Rhamnaceae); *Rubus caesius* L., *R. odoratus* L. (Rosaceae); “le Saule” [*Salix*] (Salicaceae); *Typha* (Typhaceae); and *Ulmus americana* L. (Ulmaceae) (Anonymous, 1985; Baker, 1972; Balsbaugh, 1973; Balsbaugh & Hays, 1972; Barney, 1984; Chagnon, 1937; Chagnon & Robert, 1962; Fall, 1915; Haldeman, 1849; Johnson, 1915; Kirk & Balsbaugh, 1975; Randall, 1838b; Riley & Enns, 1979; Rouse & Medvedev, 1972; Smith, 1900; Swan & Papp, 1972; Whelan, 1936; Wilcox, 1954, 1979). Additionally, Judd (1960) reported beetles, questionably identified as *P. othonus*, collected by sweeping *Chamaedaphne calyculata* (L.) Moench (Ericaceae).

In previously unpublished field work in Missouri, we have found the subspecies *P. o. othonus* feeding and mating on both *Amorpha canescens* and *Tephrosia virginiana* (L.) Pers. (Fabaceae). We have also observed beetles nibbling on *Silphium terebinthinaceum* Jacq. (Asteraceae), but the occurrence on this plant was very brief, with the insects soon flying to one of the above-mentioned fabaceous plants. Records maintained by the USDA-ARS Grassland, Soil and Water Research Laboratory state that adults of the subspecies *P. o. pallidipennis* Suffrian have been swept from foliage of *Gutierrezia dracunculoides* (DC.) Hoffm. and *G. texana* (DC.) Torr. & Gray (Asteraceae) in Bell County, Texas (Thomas O. Robbins, pers. comm.).

***Pachybrachis pawnee* Fall.** This species has been collected from *Rumex* (Polygonaceae) (Kirk & Balsbaugh, 1975).

***Pachybrachis peccans* Suffrian.** Larvae feed on dead or dying leaves of *Salix* (Salicaceae) (Balsbaugh, 1988; LeSage, 1985). This species (stage generally not indicated) has also been reported from *Solidago* (Asteraceae); *Betula papyrifera* Marsh. (Betulaceae); *Convolvulus arvensis* L. (Convolvulaceae); *Desmodium*, soybean [*Glycine max* (L.) Merr.], alfalfa [*Medicago sativa* L.] (Fabaceae); *Carya* (Juglandaceae); spruce [*Picea*] (Pinaceae); *Rumex acetosella* L. (Polygonaceae); *Prunus virginiana* L., *Rubus*, *Spiraea latifolia* (Ait.) Borkh. [*S. alba* var. *latifolia* (Ait.) Dippel] (Rosaceae); *Populus*, *Salix amygdaloides* Anderss., and *S. interior* Rowlee [*S. exigua* ssp. *interior* (Rowlee) Cronquist] (Salicaceae) (Anonymous, 1985; Baker, 1972; Barney, 1984; Blatchley, 1910, 1924a; Fall, 1915; Hatch, 1924a; Kirk & Balsbaugh, 1975; LeSage, 1985; MacAloney, 1950; Proctor, 1946; Rouse & Medvedev, 1972; Wilcox, 1979). Beyond this, Fall (1915) listed material that was collected by sweeping grass [Poaceae], but sweeping records should not necessarily be interpreted as host associations. In previously unpublished investigations, we have seen specimens labeled from bayberry [*Myrica*] (Myricaceae) in Massachusetts, from *Populus* (Salicaceae) in Pennsylvania, and from *Salix* (Salicaceae) in Michigan.

***Pachybrachis pectoralis* (Melsheimer).** This species, sometimes cited as the synonym *P. sobrinus* Haldeman, has been associated with *Robinia pseudoacacia* L. (Fabaceae) (Barney, 1984; Blatchley, 1924a; Clark, 2000; Fall, 1915; Riley & Enns, 1979; Wilcox, 1979). Additionally, it has been recorded from *Rhus glabra* L. (Anacardiaceae); *Corylus americana* Walt. (Betulaceae); *Cercis canadensis* L., *Gleditsia triacanthos* L., soybean [*Glycine max* (L.) Merr.] (Fabaceae); and *Quercus* (Fagaceae) (Balsbaugh & Hays, 1972; Barney, 1984; Lee, 1949; Riley & Enns, 1979; Rouse & Medvedev, 1972; Wilcox, 1979). Beyond this, Stiefel (1993) reported larvae of this beetle species feeding on wood of a decaying log, too decomposed for positive identification but thought to be *Quercus macrocarpa* Michx. (Fagaceae).

***Pachybrachis pinguescens* Fall.** In previously unpublished investigations, we have seen two specimens labeled from California in association with *Acamptopappus* (Asteraceae).

***Pachybrachis pinicola* Rouse & Medvedev.** This species has been collected from pine [*Pinus*] (Pinaceae) (Rouse & Medvedev, 1972).

***Pachybrachis postfasciatus* Fall.** In previously unpublished investigations, we have seen a series (nine specimens) labeled from Texas in association with *Acacia constricta* Benth. ex A. Gray (Fabaceae).

***Pachybrachis praeclarus* (Weise).** This species has been reported from *Corylus* (Betulaceae) (Blatchley, 1910; Fall, 1915; Wilcox, 1979). In previously unpublished field work conducted in igneous glades in Missouri, we have found *P. praeclarus* feeding on *Lespedeza virginica* (L.) Britt. (Fabaceae).

***Pachybrachis precarius* Fall.** Rouse & Medvedev (1972) recorded this species from *Desmodium* (Fabaceae). Goeden & Ricker (1989) reported that adults of “*P. precarius* Fall or nr.” occur rarely on *Bebbia juncea* (Benth.) E. L. Greene (Asteraceae). In previously unpublished investigations, we have seen a few specimens of *P. precarius* labeled as having been collected by beating locust [*Gleditsia* or *Robinia*] (Fabaceae) in Arizona.

***Pachybrachis prosopis* Fall.** This species has been associated with *Prosopis juliflora* (Sw.) DC. [*P. glandulosa* J. Torr.] (Fabaceae) (Carr, 1988; Essig, 1958; Fall, 1915; Ward *et al.*, 1977).

***Pachybrachis pulvinatus* Suffrian.** This species has been found on tall grass [Poaceae] (Blatchley, 1924a).

***Pachybrachis punctatus* Bowditch.** This species has been reported from *Salix* (Salicaceae).

***Pachybrachis pusillus* Bowditch.** Records maintained by the USDA-ARS Grassland, Soil and Water Research Laboratory state that an adult specimen, somewhat questionably identified as this beetle species, has been collected from the foliage of *Prosopis glandulosa* J. Torr. (Fabaceae) in Bell County, Texas (Thomas O. Robbins, pers. comm.).

***Pachybrachis quadratus* Fall.** This species has been reported from *Adenostoma fasciculatum* Hook. & Arn. (Rosaceae) (Carr, 1988). In previously unpublished investigations, we have seen specimens labeled from Oregon in association with *Eriogonum microthecum* Nutt. (Polygonaceae).

***Pachybrachis relictus* Fall.** This species has been recorded from *Rubus* (Rosaceae) (Hatch, 1924a; Trippel, 1934). Additionally, Barney (1984) reported a specimen collected from *Hypericum prolificum* L. (Clusiaceae).

Beyond these associations, Valenti *et al.* (1997) recorded *P. relictus* from California in association with *Arctostaphylos patula* E. L. Greene (Ericaceae). However, California is far outside of the normally accepted range for this beetle species, and this report was almost certainly based on misidentified insects.

***Pachybrachis signatifrons* Mannerheim.** This species has been reported from *Artemisia* (Asteraceae) and *Ceanothus* (Rhamnaceae) (Carr, 1988). In previously unpublished investigations, we have seen specimens labeled from California in association with *Sambucus glauca* Nutt. ex Torr. & Gray (Caprifoliaceae), *Ceanothus* (Rhamnaceae), *Adenostoma fasciculatum* Hook. & Arn. (Rosaceae), *Salix* (Salicaceae), and *Solanum* (Solanaceae).

***Pachybrachis signatus* Bowditch.** Records maintained by the USDA-ARS Grassland, Soil and Water Research Laboratory state that adults in Arizona and New Mexico have been swept from foliage of *Baccharis salicifolia* (Ruíz & Pav.) Pers. and *B. salicina* J. Torr. & A. Gray (Asteraceae) (Thomas O. Robbins, pers. comm.).

***Pachybrachis snowi* Bowditch.** In previously unpublished investigations, we have seen specimens labeled from Arizona in association with *Acacia greggii* A. Gray and *Mimosa biuncifera* Benth. (Fabaceae).

***Pachybrachis spumarius* Suffrian.** This species has been recorded from *Rhus glabra* L. (Anacardiaceae); *Alnus* (Betulaceae); *Cornus* (Cornaceae); huckleberry [*Gaylussacia*] (Ericaceae); *Quercus alba* L., *Q. bicolor* Willd., *Q. marilandica* Muenchh. (Fagaceae); *Hydrangea* (Hydrangeaceae); pecan [*Carya illinoensis* (Wang.) K. Koch] (Juglandaceae); *Ceanothus americanus* L. (Rhamnaceae); and *Salix* (Salicaceae) (Balsbaugh & Hays, 1972; Banks, 1912; Barney, 1984; Blatchley, 1910, 1924a; Dozier, 1922; Fall, 1915; Kirk & Balsbaugh, 1975; Riley & Enns, 1979; Rouse & Medvedev, 1972; Trippel, 1934; Wilcox, 1979).

***Pachybrachis stygicus* Fall.** This species has been recorded from foliage and flowers of low huckleberry [*Gaylussacia*] (Ericaceae) (Blatchley, 1917, 1924a).

***Pachybrachis subfasciatus* LeConte.** This species has been recorded from black walnut [*Juglans nigra* L.] (Juglandaceae) and elm [*Ulmus*] (Ulmaceae) (Downie & Arnett, 1996; Johnson, 1915). It has also been reported from flowers of *Crataegus* and *Prunus virginiana* L. (Rosaceae) (Arnett, 1985; Lovell, 1915).

***Pachybrachis subvittatus* LeConte.** Wickham (1902) recorded material beaten from foliage of dwarf pines [*Pinus*] (Pinaceae). However, *P. subvittatus* is reliably known only from Texas, and Wickham's observation was from Colorado.

***Pachybrachis texanus* Bowditch.** This species has been reported from ebony [likely *Ebonopsis ebano* (Berl.) Barneby & Grimes (Fabaceae), not *Diospyros* (Ebenaceae)] (Fall, 1915). In previously unpublished investigations, we have collected adults from *Acacia smallii* Isley (Fabaceae) in southern Texas. Records maintained by the USDA-ARS Grassland, Soil and Water Research Laboratory also state that adults in Texas have been collected from foliage of *A. smallii* (Thomas O. Robbins, pers. comm.). Additionally, we have

identified adults labeled from Texas in association with *Acacia constricta* Benth. ex A. Gray.

***Pachybrachis thoracicus* Jacoby.** In previously unpublished field work in Arizona, we have collected a small series (five specimens) from *Salix* (Salicaceae).

***Pachybrachis tridens* (Melsheimer).** The host is *Toxicodendron radicans* (L.) Kuntze (Anacardiaceae) (Beutenmüller, 1890a; Blatchley, 1924a; Clark, 2000; Fall, 1915; Felt, 1907; Furth, 1985; Hamilton, 1895; Kirk, 1970; Schaeffer, 1928a; Smith, 1900, 1910a; Steyskal, 1951; Swan & Papp, 1972; Ulke, 1903; Wilcox, 1954, 1979). This beetle species has also been recorded from *Rhus* (Anacardiaceae), *Carya* (Juglandaceae), *Ceanothus americanus* L. (Rhamnaceae), *Salix amygdaloides* Anderss. (Salicaceae), and *Ulmus* (Ulmaceae) (Anonymous, 1985; Arnett, 1985; Baker, 1972; Banks, 1912; Barney, 1984; Blatchley, 1910; Dillon & Dillon, 1961; Downie & Arnett, 1996; Fall, 1915; Felt, 1907; Harrington, 1883; Jaques, 1951; Kirk & Balsbaugh, 1975; Papp, 1984; Smith, 1900, 1910a; Swan & Papp, 1972; Wilcox, 1954, 1979). However, these associations were probably incidental and possibly resulted from the tendency of *Toxicodendron* to climb on various trees and bushes.

***Pachybrachis trinotatus* (Melsheimer).** This species has been associated with *Baptisia tinctoria* (L.) R. Br. (Fabaceae) (Dillon & Dillon, 1961; Fall, 1915; Frost, 1945; Papp, 1984; Smith, 1910, 1910a; Swan & Papp, 1972; Wilcox, 1954, 1979). It is also reported to occur on *Ceanothus americanus* L. (Rhamnaceae) (Banks, 1912; Blatchley, 1910, 1924a; Dillon & Dillon, 1961; Fall, 1915; Frost, 1945; Papp, 1984; Smith, 1900, 1910a; Swan & Papp, 1972; Wilcox, 1954, 1979).

Additionally, Messina & Root (1980) reported a specimen of *P. trinotatus* swept from *Solidago* (Asteraceae), but they considered the association with this plant to be incidental. Sweet (1930) reported this beetle species from *Artemisia californica* Less. (Asteraceae), but her observation was from California, far beyond the normally recognized range of *P. trinotatus*, and it was almost certainly based on misidentification.

***Pachybrachis turbidus* LeConte.** In previously unpublished field work in Texas, we have collected adults of this species from *Quercus buckleyi* Nixon & Dorr and *Q. fusiformis* Small (Fagaceae).

***Pachybrachis turgicollis* Fall.** In previously unpublished investigations, we have seen specimens labeled from New Mexico and Texas in association with *Acacia constricta* Benth. ex A. Gray (Fabaceae).

***Pachybrachis umbraculatus* Suffrian.** Records maintained by the USDA-ARS Grassland, Soil and Water Research Laboratory state that an adult of “*Pachybrachis* sp. nr. *umbraculatus* Suff.” has been collected by sweeping foliage of *Baccharis pteronioides* DC. (Asteraceae) in Santa Cruz County, Arizona (Thomas O. Robbins, pers. comm.).

***Pachybrachis uncinatus* Fall.** In previously unpublished investigations, we have seen a large series labeled from New Mexico in association with *Prosopis juliflora* (Sw.) DC. [*P. glandulosa* J. Torr.] (Fabaceae).

***Pachybrachis uteanus* Fall.** Records maintained by the USDA-ARS Grassland, Soil and Water Research Laboratory state that adults of “*Pachybrachis* sp. near *uteanus* Fall” have been swept from foliage of *Flourensia cernua* DC. (Asteraceae) in Cochise County, Arizona (Thomas O. Robbins, pers. comm.).

***Pachybrachis vacillatus* Fall.** Horning & Barr (1970) recorded this species from *Ericameria nauseosa* (Pall. ex Pursh) Nesom & Baird (Asteraceae), *Pinus flexilis* E. James (Pinaceae), and *Chamaebatiaria millefolium* (Torr.) Maxim. (Rosaceae).

***Pachybrachis varians* Bowditch.** This species has been associated with natal grass [*Rhynchelytrum repens* (Willd.) C. E. Hubb.] (Poaceae) (Balsbaugh & Hays, 1972; Blatchley, 1924a).

***Pachybrachis varicolor* Suffrian.** This species is reported to occur on *Abies concolor* (Gord. & Glend.) Lindl. ex Hildebr. (Pinaceae) (Carr, 1988; Essig, 1958; Fall, 1915; Jaques, 1951). It has also been recorded from *Ceanothus cuneatus* (Hook.) Nutt. (Rhamnaceae) (Carr, 1988).

***Pachybrachis vau* Fall.** This species has been reported from *Ericameria nauseosa* (Pall. ex Pursh) Nesom & Baird, *Gutierrezia microcephala* (DC.) A. Gray, and *G. sarothrae* (Pursh) N. L. Britt. & Rusby (Asteraceae) (Foster et al., 1981; Hatch, 1971; Horning & Barr, 1970). Beyond this, records maintained by the USDA-ARS Grassland, Soil and Water Research Laboratory state that adults have been swept from foliage of *Baccharis pteronioides* DC., *Gutierrezia dracunculoides* (DC.) Hoffm., and *G. texana* (DC.) Torr. & Gray (Asteraceae) (Thomas O. Robbins, pers. comm.).

***Pachybrachis vestigialis* Fall.** This species has been reported from Spanish needles [*Bidens bipinnata* L.] and flowers of *Erigeron* (Asteraceae), and from alfalfa [*Medicago sativa* L.] (Fabaceae) (Rouse & Medvedev, 1972). In Mexico, “*Pachybrachis* nr. *vestigialis*” has been found occasionally on *Parthenium hysterophorus* L. (Asteraceae) (McClay et al., 1995).

***Pachybrachis viduatus* (Fabricius).** Johnson (1916) recorded material from meadowsweet [*Spiraea*] (Rosaceae). However, his report was from Connecticut, beyond the generally recognized range of this beetle species, and the identification is therefore questionable.

***Pachybrachis virgatus* LeConte.** Riley & Enns (1979) reported a single specimen collected by sweep-

ing vegetation that included *Polygonum* (Polygonaceae).

***Pachybrachis wenzeli* Fall.** In previously unpublished investigations, we have seen a specimen labeled from Arizona in association with *Mimosa* (Fabaceae) and another specimen labeled from Texas in association with *Quercus* (Fagaceae).

***Pachybrachis wickhami* Bowditch.** In previously unpublished investigations, we have seen *P. wickhami* labeled from Baja California in association with *Prosopis* (Fabaceae).

***Pachybrachis xantholucens* Fall.** Records maintained by the USDA-ARS Grassland, Soil and Water Research Laboratory state that adults have been “beaten or swept from foliage or feeding on leaves” of *Larrea tridentata* (Sesse & Moçino ex DC.) Coville (Zygophyllaceae) in Arizona, New Mexico, Texas, and Mexico (Thomas O. Robbins, pers. comm.).

***Pachybrachis xanti* Crotch.** Fall (1915) listed material that was labeled as feeding on *Atriplex* (Chenopodiaceae). Carr (1988) recorded material labeled from *Atriplex* and also from *Larrea divaricata* Cav. (Zygophyllaceae). Records maintained by the USDA-ARS Grassland, Soil and Water Research Laboratory state that adults have been swept from foliage of *Larrea tridentata* (Sesse & Moçino ex DC.) Coville in Arizona, Nevada, and New Mexico (Thomas O. Robbins, pers. comm.).

***Pachyonychis paradoxus* Clark.** Blatchley (1925) reported the synonym *Hamletia dimidiaticornis* Crotch swept from grass [Poaceae]. However, sweeping records, without further evidence, should not be interpreted as host associations.

Jolivet & Hawkeswood (1995) reported *Pachyonychis* Clark, a monotypic genus containing only *P. paradoxus*, from *Smilax* (Smilacaceae). However, this almost certainly resulted from confusion with *Pachyonychus* Crotch.

***Pachyonychus paradoxus* Melsheimer.** Hosts are species of *Smilax* (Smilacaceae), including *S. rotundifolia* L. and *S. tamnoides* L. (Balsbaugh & Hays, 1972; Blatchley, 1910; Clark, 2000; Downie & Arnett, 1996; Duckett, 1920; Jolivet & Hawkeswood, 1995; Riley & Enns, 1979; Riley *et al.*, 2002; Schwarz, 1890; Smith, 1910a; Ulke, 1903; Wilcox, 1979).

***Pagria signata* (Motschulsky).** This species, adventive in Hawaii, has been associated with soybean [*Glycine max* (L.) Merr.] and bean [likely *Phaseolus vulgaris* L.] (Fabaceae) (Jolivet, 2001; Samuelson & Kumashiro, 1995).

***Paranapiacaba connexa* (LeConte).** This species feeds on Cucurbitaceae, including *Cucurbita foetidissima* Kunth in H. B. K. (Chittenden, 1910; Crosby & Leonard, 1918; Metcalf, 1979; Metcalf *et al.*, 1994; Rodriguez-del-Bosque & Magallanes-Estala, 1994; Wilcox, 1965). Additionally, *P. connexa* has been reported from *Baccharis halimifolia* L. (Asteraceae) and bean [likely *Phaseolus vulgaris* L.] (Fabaceae) (Crosby & Leonard, 1918; Palmer, 1987).

***Paranapiacaba tricincta* (Say).** This species has been recorded from *Baccharis salicifolia* (Ruíz & Pav.) Pers., *Helianthus annuus* L., *Gutierrezia sarothrae* (Pursh) N. L. Britt. & Rusby (Asteraceae); watermelon [*Citrullus lanatus* (Thunb.) Matsum. & Nakai], cantaloupe [*Cucumis melo* L.], muskmelon [*Cucumis melo*], cucumber [*Cucumis sativus* L.], *Cucurbita foetidissima* Kunth in H. B. K., pumpkin [*Cucurbita*], squash [*Cucurbita*] (Cucurbitaceae); bean [likely *Phaseolus vulgaris* L.], *Prosopis glandulosa* J. Torr. (Fabaceae); corn [*Zea mays* L.], perennial grasses (Poaceae); and *Solanum elaeagnifolium* Cav. (Solanaceae) (Boldt & Robbins, 1990; Brisley, 1925; Chittenden, 1924d; Douglass, 1929; Essig, 1958; Foster *et al.*, 1981; Goeden, 1971a; Metcalf *et al.*, 1994; Popenoe, 1877; Rogers, 1988; Smith, 1966; Ward *et al.*, 1977). Several of these associations involved flowers rather than foliage.

***Paratriarius dorsatus* (Say).** This species has been associated with *Commelina virginica* L. [*C. erecta* L.], *Tradescantia subaspera* Ker Gawl., and *T. virginiana* L. (Commelinaceae) (Blatchley, 1910; Clark, 2000; Downie & Arnett, 1996; Dury, 1906; Riley & Enns, 1979; Riley *et al.*, 2002; Wilcox, 1954, 1965). It has also been recorded from *Eupatorium ageratoides* L. f. and *E. rugosum* Houtt. (Asteraceae) (Dury, 1904; Wilcox, 1954, 1979), but these occurrences were probably adventitious.

***Parchicola iris* (Olivier).** This species has been associated with *Passiflora incarnata* L. and *P. lutea* L. (Passifloraceae) (Balsbaugh & Hays, 1972; Clark, 2000; Downie & Arnett, 1996; Duckett, 1920; Riley & Enns, 1979; Riley *et al.*, 2001; Wilcox, 1979). It has also been reported from *Phytolacca americana* L. (Phytolaccaceae) (Balsbaugh & Hays, 1972; Downie & Arnett, 1996; Wilcox, 1979), but this occurrence was likely incidental.

***Parchicola tibialis* (Olivier).** Hosts are species of *Passiflora* (Passifloraceae), including *P. incarnata* L. (Balsbaugh & Hays, 1972; Clark, 2000; Downie & Arnett, 1996; Dozier, 1922; Löding, 1945; Peck & Thomas, 1998; Riley & Enns, 1979; Riley *et al.*, 2001; Takizawa, 2003; Wilcox, 1979). In previously unpublished investigations in southern Texas, we have collected specimens of the pale form of this beetle species (*sensu* Blake, 1946) from *P. foetida* L.

Folsom (1936b) reported finding beetles on cotton [*Gossypium*] (Malvaceae). However, he further

reported that, although they fed briefly on cotton in the laboratory, they died within just three days. Beyond this, *M. tibialis* has been reported from soybean [*Glycine max* (L.) Merr.] (Fabaceae), broomsedge [*Andropogon virginicus* L.] (Poaceae), and mullein [*Verbascum*] (Scrophulariaceae) (Kirk, 1969, 1970), but these occurrences were probably incidental.

***Paria arizonensis* Wilcox.** Wilcox (1957) recorded one specimen labeled from *Mimosa* (Fabaceae). He also recorded material swept from alfalfa [*Medicago sativa* L.] (Fabaceae). In previously unpublished investigations, we have collected adults of *P. arizonensis* from *Brickellia laciniata* Gray (Asteraceae) in western Texas.

***Paria aterrima* (Olivier).** This species is associated with *Iva frutescens* L. (Asteraceae) (Balsbaugh, 1970; Clark, 2000; Downie & Arnett, 1996; Wilcox, 1957, 1979). Also, Kirk (1970) recorded material from goldenrod [*Solidago*] (Asteraceae). Additionally, Palmer & Bennett (1988) included *P. aterrima* in a list of insects collected from *Baccharis halimifolia* L. (Asteraceae). Barber, in otherwise unpublished notes quoted by Wilcox (1957), reported this beetle species heavily infesting *Baccharis* or *Iva* (plants that he did not distinguish from each other). Downie & Arnett (1996) reported that *P. aterrima* occurs on ivy. However, this was almost certainly a typographical error, *Iva* being intended.

Beyond these reports, this beetle species has also been recorded from *Apocynum androsaemifolium* L. (Apocynaceae); *Solidago*, *Aster multiflorus* Ait. [*Symphytotrichum ericoides* var. *ericoides* (L.) Nesom] (Asteraceae); *Cercis canadensis* L., *Robinia pseudoacacia* L. (Fabaceae); *Juglans cinerea* L. (Juglandaceae); grass [Poaceae]; *Fragaria vesca* L. (Rosaceae); willow [*Salix*] (Salicaceae); *Typha latifolia* L. (Typhaceae); and wild grape [*Vitis*] (Vitaceae) (Beutenmüller, 1890a; Clark, 2000; Cole, 1931; Forbes, 1884a, 1909; Gossard, 1911; Hamilton, 1895; Harrington, 1883; Hopkins, 1893; Lee, 1949; Lugger, 1899; Packard, 1890; Webster, 1893a; Weiss & West, 1922; Whelan, 1936; Wickham, 1902). However, most of these reports predate significant taxonomic revision, and the identity of the beetles is therefore doubtful or, in some instances, clearly in error. Moreover, some of the occurrences were probably incidental. Blatchley (1924a) reported specimens of “*P. canella aterrima*” collected by sifting piles of rotten unhulled rice [*Oryza sativa* L.] (Poaceae), but he did not suggest that the beetles fed on this plant.

***Paria barnesi* Wilcox.** In previously unpublished investigations, we have seen *P. barnesi* labeled from Florida in association with *Polygonum* (Polygonaceae).

***Paria blatchleyi* Wilcox.** This species has been associated with *Chamaecyparis thyoides* (L.) B.S.P. (Cupressaceae) (Balsbaugh, 1970; Balsbaugh & Hays, 1972). It has also been collected by sweeping and beating foliage that included ferns [Pteridophyta] (Wilcox, 1957), but these plants were probably not hosts.

***Paria canella* (Fabricius).** This species has been associated with *Hypericum* (Clusiaceae) (Balsbaugh, 1970; Balsbaugh & Hays, 1972). Additionally, Kirk (1970) reported a larva from the root of *Panicum* (Poaceae).

This beetle species has also been recorded from goldenrod [*Solidago*], *Symphytotrichum ericoides* (L.) Nesom (Asteraceae); filbert [*Corylus*] (Betulaceae); *Tillandsia usneoides* (L.) L. (Bromeliaceae); *Juniperus communis* L. (Cupressaceae); hickory [*Carya*], *Juglans cinerea* L., *J. nigra* L., English walnut [*J. regia* L.], *J. sieboldiana* Maxim. (Juglandaceae); Douglas fir [*Pseudotsuga menziesii* (Mirbel) Franco] (Pinaceae); *Avena sativa* L., *Secale cereale* L., *Setaria italica* (L.) P. Beauv. (Poaceae); Klondike strawberry [*Fragaria virginiana* Mill.], Gandy strawberry [*Fragaria*], *Malus coronaria* (L.) P. Mill., *M. sylvestris* P. Mill., *Potentilla*, *Prunus persica* (L.) Batsch, various horticultural roses [*Rosa*], red raspberry [*Rubus idaeus* L.], blackberry [*Rubus*], *Sorbus* (Rosaceae); *Salix* (Salicaceae); *Solanum tuberosum* L. (Solanaceae); *Typha latifolia* L. (Typhaceae); elm [*Ulmus*] (Ulmaceae); and *Vitis* (Vitaceae) (Andison, 1956; Baerg, 1949; Barrett, 1932; Bennett & Fulton, 1953; Blatchley, 1924a; Burke *et al.*, 1974; Carr, 1988; Chamberlain & Putnam, 1955; Cory & Travers, 1920; Dozier, 1918; Essig, 1958; Essig & Hoskins, 1944; Felt, 1902a, 1907, 1930; Gossard, 1911; Horne & Essig, 1921; Löding, 1945; Lugger, 1899; Mills & Dewey, 1934; Mills & LaPlante, 1952; Packard, 1890; Peterson, 1921; Proctor, 1938, 1946; Readio, 1939; Riley & Howard, 1893; Rosenfeld, 1911; Sanderson & Peairs, 1931; Scott *et al.*, 1932; Slingerland & Crosby, 1915; Smith, 1900, 1910a, 1943; Urbahns, 1921; Weigel, 1926; Weigel & Chambers, 1920; Westcott, 1946). However, many of these reports predate modern taxonomic revision and were probably based on species other than *P. canella*. Moreover, some of the occurrences were likely incidental.

Weigel (1926) reported beetles damaging foliage of prairie rose [*Rosa setigera* Michx.] and Harrison rose [*Rosa*]. The beetles were thought to be *P. canella*, but positive identification was not possible due to the poor condition of the specimens. In spite of their suspected identity, the beetles were almost certainly some species other than *P. canella*.

Howden & Vogt (1951) reported *P. canella* from under bark of *Pinus virginiana* P. Mill. (Pinaceae). However, they considered this to be “chance hibernation.” Whatever the case, the report was from Maryland, beyond the normally recognized range of *P. canella*, and their record was almost certainly based on some

other beetle species. Wray & Brimley (1943) reported beetles from *Sarracenia flava* L. (Sarraceniaceae), but this was probably an instance in which the insects were prey rather than herbivores. Moreover, this report was from North Carolina and again was likely based on misidentification.

***Paria fragariae* Wilcox.** Hosts are Rosaceae, this species having been recorded from *Fragaria chiloensis* (L.) Duchn., wild crab [*Malus coronaria* (L.) P. Mill.], apple [*Malus sylvestris* P. Mill.], peach [*Prunus persica* (L.) Batsch], *Rosa*, *Rubus*, and mountain ash [*Sorbus*] (Balsbaugh, 1970; Balsbaugh & Hays, 1972; Carr, 1988; Davidson & Lyon, 1987; Dearborn & Donahue, 1993; Downie & Arnett, 1996; Lawson, 1991; Levesque & Levesque, 1998; Metcalf & Metcalf, 1993; Milliron, 1958; Riley & Enns, 1979; Riley *et al.*, 2002; Rouse & Medvedev, 1972; White, 1983; Wilcox, 1954, 1957, 1979; Williams & Rings, 1980). Beyond the above-mentioned records, “strawberry rootworm” (scientific name not given, but likely *P. fragariae*) has been reported from strawberry [*Fragaria*], apple [*Malus sylvestris*], peach [*Prunus persica*], pyracantha [*Pyracantha*], rose [*Rosa*], blackberry [*Rubus*], raspberry [*Rubus*], and mountain ash [*Sorbus*] (Smith, 1967).

Beyond Rosaceae, *P. fragariae* has been reported from various other plants, including *Cornus amomum* Mill. (Cornaceae); soybean [*Glycine max* (L.) Merr.] (Fabaceae); butternut [*Juglans cinerea* L.], walnut [*Juglans*] (Juglandaceae); broomsedge [*Andropogon virginicus* L.], oats [*Avena*], rye [*Elymus* or *Secale*] (Poaceae); and grape [*Vitis*] (Vitaceae) (Burbutis, 1963d; Kirk, 1970; Metcalf & Metcalf, 1993; Rouse & Medvedev, 1972; Wilcox, 1957). Some of these associations were likely either incidental or based on misidentification.

Prior to the original description of *P. fragariae*, this species was often identified as *P. canella* (Fabricius) or *P. quadrinotata* (Say). See the discussion of those species for additional associations that may have been based on *P. fragariae*.

***Paria frosti* Wilcox.** This species is reported to occur on *Comptonia peregrina* (L.) Coult. (Myricaceae) (Clark, 2000; Downie & Arnett, 1996; Wilcox, 1957, 1979).

***Paria opacicollis* LeConte.** Hosts are reported to be species of *Quercus* (Fagaceae), with specific reports from *Q. ilicifolia* Wengen., *Q. imbricaria* Michx., and *Q. stellata* Wengen. (Balsbaugh, 1970; Balsbaugh & Hays, 1972; Downie & Arnett, 1996; Wilcox, 1957, 1979). Beyond this, *P. opacicollis* has been recorded from pecan [*Carya illinoensis* (Wang.) K. Koch], hickory [*Carya*] (Juglandaceae); cotton [*Gossypium*] (Malvaceae); and *Salix nigra* Marsh. (Salicaceae) (Downie & Arnett, 1996; Riley & Enns, 1979; Rouse & Medvedev, 1972; Wilcox, 1954, 1957).

***Paria pratensis* Balsbaugh.** These insects have been associated with species of *Rosa* (Rosaceae), including *R. setigera* Michx. (Balsbaugh, 1970; Downie & Arnett, 1996; Kirk & Balsbaugh, 1975; Riley & Enns, 1979; Wilcox, 1979).

***Paria quadriguttata* LeConte.** Although the preferred hosts are species of *Salix* (Salicaceae), with specific records for *S. interior* Rowlee [*S. exigua* ssp. *interior* (Rowlee) Cronquist] and *S. nigra* Marsh., beetles have also been reported from *Acer negundo* L. (Aceraceae); *Baccharis pteronioides* DC., *B. salicina* J. Torr. & A. Gray, *Eupatorium havanense* Kunth in H. B. K., *Gutierrezia sarothrae* (Pursh) N. L. Britt. & Rusby, goldenrod [*Solidago*] (Asteraceae); hickory [*Carya*], walnut [*Juglans*] (Juglandaceae); *Salvia* (Lamiaceae); *Platanus occidentalis* L. (Platanaceae); and *Populus* (Salicaceae) (Balsbaugh, 1970; Balsbaugh & Hays, 1972; Boldt & Robbins, 1994; Downie & Arnett, 1996; Dozier, 1922; Hamilton, 1895; Moldenke, 1971; Proctor, 1938, 1946; Raizenne, 1975; Riley & Enns, 1979; Tanner, 1928; Wilcox, 1954, 1957, 1979). Some, or all, of the non-salicaceous associations were almost certainly either incidental or based on misidentified beetles.

***Paria quadrinotata* (Say).** Normal hosts are apparently species of *Juglans* (Juglandaceae), this beetle species having been reported from butternut [*J. cinerea* L.], black walnut [*J. nigra* L.], English walnut [*J. regia* L.], and Japanese walnut [*J. sieboldiana* Maxim.] (Anonymous, 1985; Baker, 1972; Balsbaugh, 1970; Downie & Arnett, 1996; Hamilton, 1895; Smith & Kido, 1949; Weigel, 1926; Wilcox, 1954, 1957, 1979). Additionally, this beetle species has been recorded from *Carya* (Juglandaceae) and oak [*Quercus*] (Fagaceae) (Downie & Arnett, 1996; Hamilton, 1895; Riley & Enns, 1979; Trippel, 1934; Weigel, 1926; Weigel & Doucette, 1923; Wilcox, 1957, 1979).

Beyond these records, beetles have been reported from heath aster [*Symphotrichum ericoides* (L.) Nesom] (Asteraceae); *Corylus americana* Walt. (Betulaceae); morning-glory [likely *Calystegia*, *Convolvulus*, or *Ipomoea*] (Convolvulaceae); Saint John’s wort [*Hypericum*] (Clusiaceae); *Juniperus* (Cupressaceae); *Cercis canadensis* L., locust [*Gleditsia* or *Robinia*], red clover [*Trifolium pratense* L.] (Fabaceae); sweet fern [*Comptonia peregrina* (L.) Coult.] (Myricaceae); *Passiflora* (Passifloraceae); white pine [*Pinus strobus* L.] (Pinaceae); oats [*Avena*], rye [*Elymus* or *Secale*], millet [*Panicum* or *Setaria*] (Poaceae); *Crataegus*, *Fragaria chiloensis* (L.) Duchn., Klondike strawberry [*F. virginiana* Mill.], wild crab apple [*Malus coronaria* (L.) P. Mill.], *Pyrus malus* L. [*Malus sylvestris* P. Mill.], cinquefoil [*Potentilla*], peach [*Prunus persica* (L.) Batsch], wild cherry [*Prunus*], rose [*Rosa*], red raspberry [*Rubus idaeus* L.], black raspberry [*Rubus occidentalis* L.], *Rubus odoratus* L., Himalaya blackberry [*R. procerus* P. J. Muell.], boysenberry [*R. ursinus* Cham. &

Schlecht.), youngberry [*R. ursinus*], *Sorbus* (Rosaceae); *Salix discolor* Muhl., *S. petiolaris* J. E. Sm. (Salicaceae); linn [*Tilia*] (Tiliaceae); and grape [*Vitis*] (Vitaceae) (Anonymous, 1985; Baker, 1972; Blatchley, 1910, 1924a; Dearborn & Donahue, 1993; Downie & Arnett, 1996; Kido, 1941; Lee, 1949; Peterson, 1960; Proctor, 1946; Smith & Kido, 1949; Trippel, 1934; Webster, 1881, 1893a; Weigel, 1926; Weigel & Doucette, 1923; Wilcox, 1954, 1957, 1979). However, many of these associations predate modern taxonomic revision, and the true identity of the beetles is therefore very uncertain, or, in some cases, the identification is clearly in error. Moreover, although some records involved early season feeding before normal hosts were available, others were probably purely incidental.

***Paria scutellaris* (Notman).** Hosts are species of *Cornus* (Cornaceae), with specific records for *C. amomum* Mill., *C. racemosa* Lam., and *C. stolonifera* Michx. [*C. sericea* L.] (Balsbaugh, 1970; Balsbaugh & Hays, 1972; Downie & Arnett, 1996; Wilcox, 1957, 1979). However, this beetle species has also been recorded from *Polygonum*, *Rumex verticillatus* L. (Polygonaceae); and *Fragaria* (Rosaceae) (Riley & Enns, 1979; Wilcox, 1957). Beyond this, Wilcox (1957) reported material, questionably identified as *P. scutellaris*, from *Carpinus caroliniana* Walt. (Betulaceae). Additionally, Trippel (1934) recorded "*Paria canella* var. *scutellaris*" from willow [*Salix*] (Salicaceae), but this was likely based on misidentified insects.

***Paria sellata* (Horn).** Hosts are species of *Hypericum* (Clusiaceae), including *H. prolificum* L. and *H. sphaerocarpum* Michx. (Balsbaugh, 1979; Blatchley, 1910; Clark, 2000; Downie & Arnett, 1996; Hamilton, 1895; Wilcox, 1954, 1957, 1979). In previously unpublished field work conducted in Missouri, we have found *P. sellata* feeding on *H. hypericoides* ssp. *hypericoides* (L.) Crantz.

Beyond this, beetles have been reported from *Solidago* (Asteraceae), soybean [*Glycine max* (L.) Merr.] (Fabaceae), *Pycnanthemum* (Lamiaceae), and *Rubus* (Rosaceae) (Balsbaugh & Hays, 1972; Rouse & Medvedev, 1972; Wilcox, 1954, 1957, 1979). Additionally, in laboratory tests, *P. sellata* has been reported to feed on cotton [*Gossypium*] (Malvaceae) (Folsom, 1936b).

***Paria sexnotata* (Say).** Hosts are species of *Juniperus* (Cupressaceae), beetles having been recorded from *J. communis* L., *J. horizontalis* Moench, and *J. virginiana* L. (Anonymous, 1985; Baker, 1972; Balsbaugh, 1970; Balsbaugh & Hays, 1972; Blatchley, 1910, 1927; Clark, 2000; Downie & Arnett, 1996; Packard, 1890; Riley & Enns, 1982; Say, 1824; Weigel, 1926; Wilcox, 1954, 1957, 1979). Probably, Schwarz's (1912) report of "*Colaspis sexsignata*" from juniper [*Juniperus*] was based on *P. sexnotata*.

Additionally, *P. sexnotata* has been recorded from fern [Pteridophyta]; horsetweed [*Conyza canadensis* (L.) Cronq.] (Asteraceae); *Cercis canadensis* L. (Fabaceae); oak [*Quercus*] (Fagaceae); hickory [*Carya*], walnut [*Juglans*] (Juglandaceae); cotton [*Gossypium*] (Malvaceae); loblolly pine [*Pinus taeda* L.] (Pinaceae); broomsedge [*Andropogon virginicus* L.] (Poaceae); strawberry [*Fragaria*] (Rosaceae); willow [*Salix*] (Salicaceae); *Tamarix gallica* L. (Tamaricaceae); and wild grape [*Vitis*] (Vitaceae) (Blatchley, 1910, 1924a; Bruner, 1895; Gossard, 1911; Hamilton, 1895; Hefley, 1937; Lee, 1949; Osborn, 1891; Packard, 1890; Rouse & Medvedev, 1972; Townsend, 1902). Also, Webster (1881) included this beetle species in a list of chrysomelids collected from either *Salix discolor* Muhl. or *S. petiolaris* J. E. Sm. Additionally, Webster's (1893a) statement that "*Paria 6-guttata* Lec." injures the leaves of strawberry [*Fragaria*] (Rosaceae) was probably intended to refer to *P. sexnotata*. Whatever the case, such non-*Juniperus* records were probably either incidental or based on beetles other than true *P. sexnotata*.

***Paria thoracica* (Melsheimer).** Normal hosts are Asteraceae, this species having been reported from *Baccharis halimifolia* L., *Euthamia graminifolia* (L.) Nutt., *Solidago altissima* L., *S. canadensis* L., *S. gigantea* Ait., *S. juncea* Ait., *S. rugosa* P. Mill., and "*Aster possibly simplex*" [*Aster simplex* Willd. = *Symphotrichum lanceolatum* (Willd.) Nesom] (Balsbaugh, 1970; Balsbaugh & Hays, 1972; Clark, 2000; Downie & Arnett, 1996; Greene, 1970; Loan, 1967; Messina & Root, 1980; Palmer, 1987; Riley & Enns, 1979; Wilcox, 1954, 1957, 1979). In previously unpublished field work, we have collected a series of adults from *Rudbeckia missouriensis* Engelm. ex C. L. Boynt. & Beadle on glades in southern Missouri.

This beetle species has also been recorded from *Amaranthus retroflexus* L. (Amaranthaceae); *Asclepias syriaca* L. (Asclepiadaceae); soybean [*Glycine max* (L.) Merr.], alfalfa [*Medicago sativa* L.], *Trifolium* (Fabaceae); *Fragaria virginiana* Mill. (Rosaceae); and *Vitis* (Vitaceae) (Balsbaugh, 1970; Balsbaugh & Hays, 1972; Dailey *et al.*, 1978; Rouse & Medvedev, 1972; Wilcox, 1957). At least some of these non-asteraceous occurrences were surely incidental. Additionally, beetles have been reported from corn [*Zea mays* L.] (Poaceae) (Douglass, 1929), but this association was not only incidental, but it also predates modern taxonomic revision, and the identity of the insects is therefore questionable.

***Paria virginiae* Wilcox.** This species has been associated with *Avicennia nitida* Jacq. [*A. germinans* (L.) L.] (Avicenniaceae) (Wilcox, 1957).

***Paria wilcoxi* Balsbaugh.** The host has been reported as *Taxodium distichum* (L.) L. C. Rich. (Taxodiaceae) (Balsbaugh, 1970; Balsbaugh & Hays, 1972). Beyond this, Bollinger (1980) recorded *P. wilcoxi* from *Zea mays* L. (Poaceae), but this occurrence was probably incidental.

***Parorectis callosa* (Boheman).** This species has been associated with *Physalis* and *Solanum nigrum* L. [a North American record, therefore probably *S. americanum* P. Mill.] (Solanaceae) (Barber, 1916, 1946a; Blatchley, 1924a; Borowiec, 1999; Riley *et al.*, 2002; Schwarz, 1890). In previously unpublished investigations, we have collected adults and larvae of this beetle species from *Solanum triquetrum* Cav. in southern Texas.

***Parorectis sublaevis* (Barber).** Barber (1946a) reported specimens that were collected from string bean [*Phaseolus vulgaris* L.] (Fabaceae), but he also quoted the collector who stated that this was “probably accidental.” Barber further postulated that *Physalis*, *Solanum*, or some similar plant in the Solanaceae would eventually be proven to be the host. Riley *et al.* (2002) stated that this beetle species is indeed found on *Physalis*. In previously unpublished investigations in the panhandle area of western Texas, we have collected adults of *P. sublaevis*, and larvae presumably belonging to this species, from *Chamaesaracha sordida* (Dun.) Gray (Solanaceae).

***Pentispa distincta* (Baly).** In previously unpublished observations, we have collected adults of this species from *Eupatorium azureum* DC. (Asteraceae) in southern Texas. Leaf-mining hispine larvae, presumably belonging to this species, were found associated with adults.

***Pentispa melanura* (Chapuis).** Townsend (1902) reported one specimen of the synonym *Microrhopala dimidiata* Horn beaten from *Clematis drummondii* J. Torr. & A. Gray (Ranunculaceae). More than likely, this occurrence was incidental.

In previously unpublished investigations conducted in Texas, we have collected adults of *P. melanura* from *Verbesina microptera* DC. and *V. virginica* L. (Asteraceae). Additionally, we have identified adults that were collected by Thomas O. Robbins from *Viguiera dentata* Cav. (Asteraceae) in central Texas.

***Pentispa suturalis* (Baly).** This species feeds on *Baccharis bigelovii* A. Gray and *B. salicifolia* (Ruíz & Pav.) Pers. (Asteraceae) (Boldt & Robbins, 1994; Boldt & Staines, 1993; Jolivet, 2001; Jolivet & Verma, 2002; Leech & Green, 1955).

***Phaedon armoraciae* (Linnaeus).** In North America, this species has been recorded from *Sagittaria* (Alismataceae); false forget-me-not [*Brunnera* or *Hackelia*] (Boraginaceae); sedge [Cyperaceae]; grass [Poaceae]; *Polygonum* (Polygonaceae); *Ranunculus* (Ranunculaceae); *Populus balsamifera* L., *Salix* (Salicaceae); and *Veronica beccabunga* L. (Scrophulariaceae) (Balsbaugh, 1983; Carr, 1920; Downie & Arnett, 1996; Lawson, 1991). However, at least some of these occurrences were probably incidental.

In Europe, hosts are reported to be *Myosotis secunda* A. Murray (Boraginaceae); *Armoracia lapathifolia* Gilib. [*A. rusticana* (Lam.) P. G. Gaertn., B. Mey., & Scherb.], cabbage [*Brassica oleracea* L.], kohlrabi [*B. oleracea*], mustard [*Brassica* or a similar genus], *Cardamine hirsuta* L., *Cochlearia officinalis* L., *Nasturtium amphibium* (L.) R. Br., *Rorippa amphibia* (L.) Bess., *R. nasturtium-aquaticum* (L.) Hayek. (Brassicaceae); *Ceratophyllum demersum* L. (Ceratophyllaceae); *Hippuris vulgaris* L. (Haloragaceae); *Anagallis* (Primulaceae); *Ranunculus* (Ranunculaceae); *Salix* (Salicaceae); *Veronica beccabunga* and *V. scutellata* L. (Scrophulariaceae) (Chittenden, 1907c; Cox, 1991; Daccordi & Lavarini, 1993; Fabricius, 1792; Linnaeus, 1758; Lopatin, 1984; Mohr, 1966; Müller, 1764; Paterson, 1931; Schrank, 1781; Steinhausen, 1996; Vig, 1996; Vig & Rozner, 1996). Again, some of these associations were probably adventitious, normal hosts being Brassicaceae.

***Phaedon cyanescens* Stål.** This species, including populations in Mexico, is normally associated with *Bidens pilosa* L., *Cosmos bipinnatus* Cav., and *Tagetes tenuifolia* Cav. (Asteraceae) (Anaya-Rosales *et al.*, 1987). It has occasionally also been found on *Helianthus annuus* L., *Lactuca sativa* L., *Matricaria chamomilla* L., *Senecio*, *Simsia amplexicaulis* (Cav.) Pers., and *Tithonia tubiformis* (Jacq.) Cas. (Asteraceae) (Anaya-Rosales *et al.*, 1987).

Beyond Asteraceae, *P. cyanescens* has been recorded from *Brassica campestris* L. [*B. rapa* L.], *Eruca sativa* P. Mill. [*E. vesicaria* ssp. *sativa* (P. Mill.) Thellung] (Brassicaceae); *Buddleja cordata* Kunth in H. B. K. (Buddlejaceae); *Beta vulgaris* L., *Chenopodium album* L., *C. murale* L. (Chenopodiaceae); *Lupinus montanus* Kunth in H. B. K., *Medicago sativa* L., *Phaseolus vulgaris* L., *Vicia faba* L. (Fabaceae); hollyhock [*Alcea rosea* L.] (Malvaceae); *Mirabilis jalapa* L. (Nyctaginaceae); orchid [Orchidaceae]; and *Solanum elaeagnifolium* Cav. (Solanaceae) (Anaya-Rosales *et al.*, 1987; Balsbaugh, 1983). However, according to Anaya-Rosales *et al.* (1987), these are not normal food plants. Additionally, specimens have been collected from *Quercus* (Fagaceae) (Balsbaugh, 1989), but this occurrence was likely also incidental.

***Phaedon desotonis* Balsbaugh.** The recorded host of both adults and larvae is *Coreopsis grandiflora* Hogg ex Sweet (Asteraceae) (Wheeler & Hoebeke, 2001). Additionally, in previously unpublished investigations in Arkansas, we have collected adults from *Thelesperma filifolium* (Hook.) A. Gray (Asteraceae).

***Phaedon laevigatus* (Duftschmid).** In North America, this species has been associated with horseradish [*Armoracia rusticana* (Lam.) P. G. Gaertn., B. Mey., & Scherb.] and *Rorippa nasturtium-aquaticum* (L.) Hayek. (Brassicaceae) (Balsbaugh, 1983; Clark, 2000; Cox, 1991; Downie & Arnett, 1996; Riley & Enns,

1979; Wilcox, 1979). In Europe, it has been reported from *Galeopsis ladanum* L., *G. pubescens* Besser (Lamiaceae); *Salix cinerea* L., *S. fragilis* L., and *S. nigricans* Smith (Salicaceae) (Balsbaugh, 1983; Biondi, 1993; Daccordi & Lavarini, 1993; Mohr, 1966).

***Phaedon oviformis* (LeConte).** This species has been reported from *Angelica* (Apiaceae), Brassicaceae (genus not specified), *Ranunculus* (Ranunculaceae), and willow [*Salix*] (Salicaceae) (Balsbaugh, 1983; Beller & Hatch, 1932; Carr, 1920; Russell, 1968).

***Phaedon prasinellus* (LeConte).** Balsbaugh (1983) reported that a series of this species had been collected from the roots of toadflax [*Linaria*] (Scrophulariaceae), and that a single specimen had been taken on tansy mustard [*Descurainia pinnata* (Walt.) Britt.] (Brassicaceae). He further reported a specimen collected by sweeping *Hypericum* (Clusiaceae), but sweeping records should not necessarily be interpreted as host associations. Riley *et al.* (2002) considered the plants mentioned by Balsbaugh and thought that *Descurainia* was a likely host. Beyond this, *P. prasinellus* has been reported from watercress [*Rorippa nasturtium-aquaticum* (L.) Hayek.] (Brassicaceae) (Carr, 1988).

***Phaedon purpureus* (Linell).** Balsbaugh (1983) reported a specimen collected from barrel cactus [Cactaceae]. However, it is doubtful that this is a true host. In previously unpublished investigations, we have examined a series that was labeled from southern California in association with *Sphaeralcea* (Malvaceae).

***Phaedon viridis* Melsheimer.** Hosts of this species are Brassicaceae, including *Barbarea vulgaris* R. Br., *Brassica rapa* L., mustard [*Brassica* or a similar genus], and *Lepidium virginicum* L. (Balsbaugh, 1983; Downie & Arnett, 1996; Flowers *et al.*, 1994; Peck & Thomas, 1998; Riley & Enns, 1979; Ulke, 1903; Wilcox, 1979).

This beetle species, or the synonym *Phaedon aeruginosa* (Suffrian), has also been recorded from *Nasturtium officinale* R. Br. [*Rorippa nasturtium-aquaticum* (L.) Hayek.] (Brassicaceae) (Abdullah & Qureshi, 1969; Chittenden, 1907c, 1912b; Crosby & Leonard, 1918; Downie & Arnett, 1996; Jeffrey, 1957; Knab, 1903; Westcott, 1946). However, at least some of the reports from this plant were based on misidentified specimens of *Phaedon laevigatus* (Duftschmid) (see Balsbaugh, 1983).

Beyond Brassicaceae, Balsbaugh (1983) reported a specimen collected from *Saccharum officinarum* L. (Poaceae), but he noted that this was probably an “accidental host.” This beetle species has also been recorded from dogwood blossoms [*Cornus*] (Cornaceae) and elm [*Ulmus*] (Ulmaceae) (Morris, 1914a, 1914b), but these occurrences were likely either incidental or based on misidentification.

***Phratora americana* (Schaeffer).** Both *P. a. americana* and *P. a. canadensis* Brown are associated with *Salix* (Salicaceae) (Brown, 1951; Chagnon, 1938; Chagnon & Robert, 1962; Clark, 2000; Dillon & Dillon, 1961; Downie & Arnett, 1996; Lawson, 1991; Raizenne, 1975; Wilcox, 1954, 1972, 1979). These beetles have also been reported from species of *Populus* (Salicaceae), including *P. balsamifera* L. (Dillon & Dillon, 1961; Lawson, 1991; Raizenne, 1975), but at least some such associations were likely based on misidentified beetles. Dearborn & Donahue (1993) reported *Phratora a. pallipes* (Schaeffer), a synonym of *P. a. americana*, from fir [*Abies*] (Pinaceae). However, this occurrence was surely adventitious.

***Phratora californica* Brown.** This species is reported to occur on *Salix* (Salicaceae) (Carr, 1988; Hatch, 1971). It has also been recorded from *Betula* (Betulaceae) and *Populus* (Salicaceae) (Carr, 1988).

***Phratora frosti* Brown.** Both *P. f. frosti* and *P. f. remissa* Brown are associated with *Salix* (Salicaceae) (Brown, 1951; Downie & Arnett, 1996; Furniss & Carolin, 1977; Ives & Wong, 1988; Raizenne, 1975; Wilcox, 1972). Additionally, *P. f. remissa* has been recorded from *Populus balsamifera* L. and *P. tremuloides* Michx. (Salicaceae) (Brown, 1951; Downie & Arnett, 1996; Furniss & Carolin, 1977; Ives & Wong, 1988; Raizenne, 1975; Wilcox, 1972). Beyond these reports, Chernov *et al.* (1994) recorded *P. polaris* Schneid., which they considered conspecific with both *P. frosti* and *P. hudsonica* Brown, from *Betula* (Betulaceae); *Salix glauca* L., *S. lanata* L., *S. lapponum* L., and *S. pulchra* Cham. (Salicaceae).

***Phratora hudsonia* Brown.** This species has been associated with *Betula papyrifera* Marsh. (Betulaceae) (Brown, 1961; Cavey, 1994; Downie & Arnett, 1996; Furniss & Carolin, 1977; Jolivet & Hawkeswood, 1995; Lindquist & Davis, 1971; Raizenne, 1975; Silfverberg, 1994; Wilcox, 1972). Also, Chernov *et al.* (1994) reported *P. polaris* Schneid., which they considered conspecific with both *P. frosti* Brown and *P. hudsonica*, from *Betula*, as well as from *Salix glauca* L., *S. lanata* L., *S. lapponum* L., and *S. pulchra* Cham. (Salicaceae).

***Phratora interstitialis* Mannerheim.** The food plant is *Salix* (Salicaceae) (Brown, 1951; Carr, 1932; Furniss & Carolin, 1977; Hatch, 1971; Raizenne, 1975).

***Phratora kenaiensis* Brown.** The host of this species is *Populus tremuloides* Michx. (Salicaceae) (Brown, 1952; Furniss & Carolin, 1977).

***Phratora purpurea* Brown.** Food plants of the subspecies *P. p. purpurea* include *Populus balsamifera* L., *P. grandidentata* Michx., *P. tremuloides* Michx., *Salix discolor* Muhl., and *S. fragilis* L. (Salicaceae) (Brown, 1951, 1959; Cavey, 1994; Clark, 2000; Dearborn & Donahue, 1993; Downie & Arnett, 1996; Furniss

& Carolin, 1977; Hatch, 1971; Kirk & Balsbaugh, 1975; Raizenne, 1975; Smereka, 1965). As noted by Brown (1951), “*Phratora vitellinae* (Linnaeus)” which Blatchley (1910) associated with *Salix longifolia* Lam. was likely *P. p. purpurea*. Other reports (Britton, 1911; Chagnon, 1917; Hatch, 1924a, 1924b; Jaques, 1951; Packard, 1890) of *P. vitellinae* on *Populus grandidentata* and *Salix* may also have been based on this subspecies. Similarly, “*Phyllodecta vulgatissima* Linn.” has been reported from Ontario, New Jersey, Pennsylvania, Maine, and West Virginia in association with poplar [*Populus*], *Salix longifolia*, and black willow [*S. nigra* Marsh.] (Felt, 1907; Hamilton, 1895; Harrington, 1894; Hopkins, 1893; Johnson, 1927; Packard, 1890; Proctor, 1938, 1946; Smith, 1900, 1910a), and such records may also have been based on *P. p. purpurea*.

Beyond Salicaceae, *P. p. purpurea* has been reported from fir [*Abies*] and spruce [*Picea*] (Pinaceae) (Dearborn & Donahue, 1993). However, these occurrences were surely adventitious.

Hosts of the subspecies *P. p. novaeterrae* Brown include *Populus tremuloides* and *Salix discolor* (Brown, 1951; Raizenne, 1975). Beyond this, *P. purpurea*, subspecies not clearly indicated, was reported by Wilcox (1972) from *Populus* and *Salix*.

***Phyllecthris dorsalis* (Olivier).** This species is associated with Fabaceae, having been reported from *Amorpha fruticosa* L., *Amphicarpa bracteata* (L.) Fern., *Desmodium*, soybean [*Glycine max* (L.) Merr.], and *Lespedeza* (Fabaceae) (Downie & Arnett, 1996; Riley & Enns, 1979; Rouse & Medvedev, 1972; Say, 1824; Ulke, 1903; Wilcox, 1965, 1979). In previously unpublished field work in Missouri we have found adults feeding on foliage of *Desmodium glutinosum* (Muhl. ex Willd.) Wood and *D. paniculatum* (L.) DC. Also in Missouri, we have found adults on insect-damaged foliage of *Amorpha canescens* Pursh and *Desmodium glabellum* (Michx.) DC., but we did not observe the insects in the act of feeding on these plants.

***Phyllecthris gentilis* (LeConte).** Reported hosts are *Cercis canadensis* L., *Desmodium paniculatum* (L.) DC., *Lespedeza*, *Robinia pseudoacacia* L., and *Tephrosia virginiana* (L.) Pers. (Fabaceae) (Balsbaugh & Hays, 1972; Blake, 1958; Blatchley, 1910; Clark, 2000; Downie & Arnett, 1996; Felt, 1907; Hamilton, 1895; Hopkins, 1893; Horn, 1893; Lee, 1949; Riley & Enns, 1979; Sanders, 1965; Ulke, 1903; Wilcox, 1954, 1965, 1979). In previously unpublished investigations conducted in both Kansas and Missouri, we have associated *P. gentilis* with *Amorpha canescens* Pursh (Fabaceae).

This insect species, sometimes cited as the synonym *P. nigripennis* LeConte, has also been found on cotton [*Gossypium*] (Malvaceae) and *Pinus virginiana* P. Mill. (Pinaceae) (Ashmead, 1894; Blake, 1958; Wilcox, 1979). However, these occurrences were probably incidental.

***Phyllobrotica antennata* Schaeffer.** This species has been reported from *Physostegia angustifolia* Fern. (Lamiaceae) (Riley & Enns, 1979). However, as noted by Riley (1979), this record was actually based on *Phyllobrotica physostegiae* Riley.

***Phyllobrotica circumdata* (Say).** This species, sometimes cited as the synonym *P. discoidea* (Fabricius), has been associated with *Scutellaria elliptica* Muhl. ex Spreng., *S. incana* Biehler, and *S. integrifolia* L. (Lamiaceae) (Farrell, 1985; Farrell & Mitter, 1990, 1993; Farrell *et al.*, 1992; Mitter *et al.*, 1991; Morris, 1914a, 1914b; Riley, 1979; Riley & Enns, 1979; Staines, 1999). Additionally, in previously unpublished investigations, we have collected adults from *S. cardiophylla* Engelm. & Gray in eastern Texas, and from *S. drummondii* Benth. in central Texas.

This beetle species has also been recorded from *Peltandra undulata* Raf. (Araceae), oak [*Quercus*] (Fagaceae), and sweet corn [*Zea mays* L.] (Poaceae) (Blatchley, 1910; Everly, 1938; Kirk, 1969; Morris, 1914a, 1914b; Wilcox, 1979). Additionally, Webster (1881) included *P. circumdata* in a list of chrysomelids observed on either *Salix discolor* Muhl. or *S. petiolaris* J. E. Sm. (Salicaceae). These occurrences were almost certainly incidental.

***Phyllobrotica costipennis* Horn.** The host is *Scutellaria arenicola* Small (Lamiaceae) (Farrell & Mitter, 1990, 1993; Farrell *et al.*, 1992; Mitter *et al.*, 1991).

***Phyllobrotica decorata* (Say).** The primary host is *Scutellaria galericulata* L. (Lamiaceae) (Chagnon, 1917, 1938; Chagnon & Robert, 1962; Clark, 2000; Farrell, 1985; Farrell & Mitter, 1990, 1993; Farrell *et al.*, 1992; Mitter *et al.*, 1991; Smith, 1910a). Additionally, this insect species has been recorded from *S. lateriflora* L. (Chagnon, 1917; Clark, 2000; Farrell, 1985).

Beyond this, *P. decorata* has been reported from *Lysimachia terrestris* (L.) B.S.P. (Primulaceae) (Clark, 2000; Downie & Arnett, 1996; Riley, 1979; Wilcox, 1965). However, according to Farrell (1985), this association was probably in error. Additionally, this beetle species has been recorded from fir [*Abies*] (Pinaceae); sweet corn [*Zea mays* L.] (Poaceae); *Salix discolor* Muhl. and *S. petiolaris* J. E. Sm. (Salicaceae) (Dearborn & Donahue, 1993; Douglass, 1929; Everly, 1938; Webster, 1881). Even so, these records were probably based on either misidentification or adventitious occurrences.

***Phyllobrotica leechi* Blake.** This species has been collected from alder [*Alnus*] (Betulaceae) (Blake, 1956), but it is doubtful that this plant is the true host. In previously unpublished observations, we have associated California populations with *Mentha* and *Stachys* (Lamiaceae).

***Phyllobrotica lengi* Blatchley.** In previously unpublished field work in tallgrass prairies in Missouri, we have found adults of this species feeding on *Scutellaria parvula* Michx. (Lamiaceae).

***Phyllobrotica limbata* (Fabricius).** Food plants are species of *Scutellaria* (Lamiaceae), including *S. galericulata* L., *S. lateriflora* L., *S. ovata* Hill., and *S. parvula* Michx. (Abdullah & Abdullah, 1968; Abdullah & Qureshi, 1968; Chagnon, 1938; Chagnon & Robert, 1962; Downie & Arnett, 1996; Farrell, 1985; Farrell & Mitter, 1990, 1993; Farrell *et al.*, 1992; Mitter *et al.*, 1991; Riley, 1979; Riley & Enns, 1979; Wilcox, 1965, 1979).

This beetle species has also been reported from fir [*Abies*] (Pinaceae) and *Penstemon* (Scrophulariaceae) (Dearborn & Donahue, 1993; Farrell, 1985). However, these occurrences were probably incidental.

***Phyllobrotica luperina* LeConte.** In previously unpublished observations in California, we have associated this species with *Stachys bullata* Benth. (Lamiaceae).

***Phyllobrotica nigripes* Horn.** In previously unpublished investigations in California, we have associated this species with *Stachys bullata* Benth. (Lamiaceae).

***Phyllobrotica nigratarsis* Linell.** In previously unpublished field work in Missouri, we have found five adults in an area where *Scutellaria parvula* Michx. (Lamiaceae) was growing. All five of the beetles fed on this plant species in captivity.

***Phyllobrotica physostegiae* Riley.** This species has been reported from *Physostegia angustifolia* Fern. and *P. virginiana* (L.) Benth. (Lamiaceae) (Farrell, 1985; Farrell & Mitter, 1990, 1993; Farrell *et al.*, 1992; Mitter *et al.*, 1991; Riley, 1979). In previously unpublished investigations, we have collected adults from *P. digitalis* Small in central Louisiana.

After further examination of plant vouchers, we have discovered that Farrell's (1985) report of this beetle species from *P. virginiana* was based on an incorrect plant identification. The beetles seen by Farrell, and discussed by him and his coauthors in the subsequent publications cited above, were actually collected from *P. digitalis*.

***Phyllobrotica sequoiensis* Blake.** In previously unpublished observations in California, we have associated this species with *Scutellaria siphocampyloides* Valke (Lamiaceae).

***Phyllobrotica sororia* Horn.** The host is reported to be *Scutellaria drummondii* Benth. (Lamiaceae) (Farrell, 1985; Farrell & Mitter, 1990, 1993; Farrell *et al.*, 1992; Mitter *et al.*, 1991). In previously unpublished investigations, we confirm this association, having collected adult beetles from this plant in central Texas.

***Phyllobrotica viridipennis* (LeConte).** In previously unpublished observations made in California, we have associated the subspecies *P. v. viridipennis* with *Mentha arvensis* L. and *Stachys albens* A. Gray (Lamiaceae).

***Phyllobrotica* sp.** Farrell & Mitter (1990, 1993), Farrell *et al.* (1992), and Mitter *et al.* (1991) stated that an undescribed species had been associated with *Scutellaria incana* Biehler (Lamiaceae) in Ohio.

***Phyllotreta aeneicollis* (Crotch).** Hosts are Brassicaceae, this species having been recorded from *Brassica napobrassica* (L.) Mill. [*B. napus* L.], cabbage [*B. oleracea* L.], turnip [*B. rapa* L.], mustard [interpreted by Balsbaugh & Hays (1972) as *Brassica*], *Coronopus didymus* (L.) Sm., *Lepidium virginicum* L., and *Raphanus sativus* L. (Balsbaugh & Hays, 1972; Chittenden, 1923a, 1927; Frost, 1924). In previously unpublished investigations in southern Texas, we have collected adults from *Lepidium austrinum* Small and *Sisymbrium irio* L. This insect species is also reported to occur on *Cleome* (Capparaceae) (Chittenden, 1927).

Beyond associations with Brassicaceae and Capparaceae, Rouse & Medvedev (1972) recorded *P. aeneicollis* from *Desmodium* (Fabaceae). Also, Balsbaugh & Hays (1972) reported collecting a specimen by sweeping in a field of *Trifolium incarnatum* L. However this report, or any similar sweeping records, should not necessarily be interpreted as host associations.

***Phyllotreta alberta* Chittenden.** This species has been collected from *Lepidium virginicum* L. (Brassicaceae) (Chittenden, 1927).

***Phyllotreta albionica* (LeConte).** This species feeds on Brassicaceae, having been recorded from *Alyssum*, *Arabis*, *Armoracia rusticana* (Lam.) P. G. Gaertn., B. Mey., & Scherb., *Brassica napus* L., *B. oleracea* L., *B. rapa* L., mustard [*Brassica* or a similar genus], shepherd's purse [*Capsella bursa-pastoris* (L.) Medik.], flaxweed [*Descurainia sophia* (L.) Webb in Engler & Prantl], *Draba streptocarpa* A. Gray, candytuft [*Iberis*], *Lepidium alyssoides* A. Gray [*L. montanum* ssp. *alyssoides* (A. Gray) C. L. Hitchcock], sweet alyssum [*Lobularia maritima* (L.) Desv.], *Raphanus sativus* L., watercress [*Rorippa nasturtium-aquaticum* (L.) Hayek.], hedge mustard [*Sisymbrium officinale* (L.) Scop.], and *Thlaspi alpestre* L. (Beirne, 1971; Beller & Hatch, 1932; Brisley, 1925; Burgess, 1977, 1981c, 1982b; Carr, 1988; Chittenden, 1927; Dustan, 1932; Forbes & Hart, 1900; Frost, 1949; Gibson, 1928; Gillette, 1893; Glendenning, 1927; Hatch, 1971; Jaques, 1951; Johnson, 1968j; Kirk & Balsbaugh, 1975; Packard, 1877; Peterson, 1977; Riley, 1884; Romney, 1946; Samuelson, 1994; Schwarz, 1893; Stirrett, 1924; Wickham, 1902). Additionally, Knowlton (1954b) reported "*Phyllotreta*

sp. prob. *albionica*” from turnip [*Brassica rapa*].

Also, *P. albionica* feeds on *Cleome integrifolia* Torr. & Gray and *C. lutea* Hook. (Capparaceae) (Beller & Hatch, 1932; Carr, 1988; Chittenden, 1927; Forbes & Hart, 1900; Gillette, 1893; Knowlton, 1955c; Wickham, 1902). Moreover, it has been reported to attack garden nasturtium [*Tropaeolum majus* L.] (Tropaeolaceae) (Gibson, 1928; Glendenning, 1927).

Associations have also been reported with *Achillea lanulosa* Nutt., *Artemisia tridentata* Nutt., *Ericameria nauseosa* (Pall. ex Pursh) Nesom & Baird, lettuce [*Lactuca*], *Senecio serra* Hook. (Asteraceae); *Atriplex nuttalli* S. Wats., *Beta vulgaris* L., *Chenopodium album* L. (Chenopodiaceae); *Juniperus scopulorum* Sarg. (Cupressaceae); *Medicago sativa* L. (Fabaceae); grass [Poaceae]; *Eriogonum* (Polygonaceae); *Chamaebatiaria millefolium* (Torr.) Maxim. (Rosaceae); *Salix* (Salicaceae); *Lycopersicon esculentum* Mill. and potato [*Solanum tuberosum* L.] (Solanaceae) (Beirne, 1971; Beller & Hatch, 1932; Bruner, 1891c, Burgess, 1977; Carr, 1988; Chittenden, 1927; Forbes & Hart, 1900; Gillette, 1893; Hatch, 1971; Horning & Barr, 1970; Johnson, 1969e; Packard, 1877; Russell, 1968; Wickham, 1902). Johnson (1968i) recorded *P. albionica* swept from either bean [likely *Phaseolus vulgaris* L.] or pea [likely *Pisum sativum* L.] (Fabaceae). Beyond this, Knowlton (1954b) reported “*Phyllotreta* sp. prob. *albionica*” from beet and Swiss chard [both *Beta vulgaris*] (Chenopodiaceae) and from bean [likely *Phaseolus vulgaris*] (Fabaceae). Knowlton & Esplin (1963) reported “*Phyllotreta* sp., near *albionica*” from pubescent wheatgrass [*Thinopyrum intermedium* (Host) Barkworth & D. R. Dewey] (Poaceae).

As noted by Chittenden (1927), some reports of *P. albionica* were likely based on misidentified *P. pusilla*. Other reports may have been based on misidentifications of still different species. Moreover, at least some of the associations with families other than Brassicaceae, Capparaceae, and Tropaeolaceae were probably incidental.

***Phyllotreta armoraciae* (Koch).** The normal host is *Armoracia rusticana* (Lam.) P. G. Gaertn., B. Mey., & Scherb. (Brassicaceae) (Abdullah & Qureshi 1969; Beirne, 1971; Blatchley, 1910; Burgess, 1980a, 1981c; Chagnon, 1917, 1938; Chagnon & Robert, 1962; Chittenden, 1895b, 1897b, 1926, 1927; Chittenden & Howard, 1917; Crosby & Leonard, 1918; Davidson & Lyon, 1987; Dillon & Dillon, 1961; Döberl, 1995; Doguet, 1994; Duckett, 1920; Gibson, 1913, 1914; Hatch, 1971; Johnson, 1915; Jolivet, 1991a; Jolivet & Hawkeswood, 1995; Jolivet & Verma, 2002; Lazorko, 1973; Lopatin, 1984; Madar, 1959; Mohr, 1966; Nielsen, 1988; Papp, 1984; Sanderson & Peairs, 1931; Shropshire & Kadow, 1936; Smith, 1985; Stirrett, 1924; Swan & Papp, 1972; Vig, 1991a, 1991b, 1996; Vig & Rozner, 1996; Westcott, 1946; Wilcox, 1954; Winn, 1911). Even so, this beetle species has also been reported from *Brassica oleracea* L., turnip [*B. rapa* L.], wild mustard [*Brassica* or similar genus], *Raphanus sativus* L., *Rorippa islandica* (Oeder ex Murray) Borbás, and *R. palustris* (L.) Besser (Brassicaceae) (Beirne, 1971; Burgess, 1980a; Chittenden, 1895b; Chittenden & Howard, 1917; Crosby & Leonard, 1918; Davidson & Lyon, 1987; Gibson, 1913, 1914; Milliron, 1958; Shropshire & Kadow, 1936; Smith, 1985; Stirrett, 1924; Wilcox, 1979; Winn, 1911).

Beyond Brassicaceae, Smith (1985) reported a specimen labeled from alfalfa [*Medicago sativa* L.] (Fabaceae). However, this occurrence was almost certainly adventitious.

***Phyllotreta attenuata* Smith.** This species has been associated with *Rorippa palustris* (L.) Besser (Brassicaceae) (Smith, 1985). Additionally, Smith (1985) reported a specimen labeled from sugar beet [*Beta vulgaris* L.] (Chenopodiaceae), but this occurrence was probably adventitious.

***Phyllotreta bipustulata* (Fabricius).** This species is associated with Brassicaceae, having been recorded from horseradish [*Armoracia rusticana* (Lam.) P. G. Gaertn., B. Mey., & Scherb.], *Barbarea vulgaris* R. Br., *Brassica napus* L., *B. nigra* (L.) W. D. J. Koch, *B. oleracea* L., *B. rapa* L., *Capsella bursa-pastoris* (L.) Medik., *Cardamine concatenata* (Michx.) O. Schwarz, *C. diphylla* (Michx.) Wood, *C. douglassii* (Torr.) Britt., *Lepidium campestre* (L.) R. Br., *L. virginicum* L., *Raphanus sativus* L., *Rorippa islandica* (Oeder ex Murray) Borbás, *R. palustris* (L.) Besser, charlock [*Sinapis arvensis* L.], and *Sisymbrium officinale* (L.) Scop. (Burgess, 1981c; Chittenden, 1923a, 1927; Clark, 2000; Crosby & Leonard, 1918; Dinkins, 1969c; Downie & Arnett, 1996; Duckett, 1920; Frost, 1949; Hallock, 1939; Hicks & Tahvanainen, 1974; Matheson, 1944; Riley & Enns, 1979; Rouse & Medvedev, 1972; Smith, 1985; Stirrett, 1924; Tahvanainen, 1972, 1983; Vincent & Stewart, 1981; Wilcox, 1979; Wylie, 1979).

Beyond Brassicaceae, *Rosa* (Rosaceae) is reported to occasionally be a food plant (Duckett, 1920; Stirrett, 1924). Even so, this is probably not a normal host. Also, Smith (1985) reported a specimen collected from *Verbascum* (Scrophulariaceae), but this occurrence was probably incidental. Bickenstaff & Huggans (1962) included *P. bipustulata* in a list of insects collected from soybean fields [*Glycine max* (L.) Merr.] (Fabaceae), but this should not be interpreted as a host association. Beetles thought to probably be *P. bipustulata* have been collected from corn [*Zea mays* L.] (Poaceae), but no feeding damage was observed (Anonymous, 1963r).

***Phyllotreta bisinuata* Smith.** This species has been reported from Asteraceae (genus not specified) (Carr, 1988; Smith, 1985). This occurrence was likely incidental.

***Phyllotreta chalybeipennis* (Crotch).** This species is associated with *Cakile edentula* (Bigel.) Hook. (Brassicaceae), the larvae mining the leaves (Beutenmüller, 1890a; Blatchley, 1924a; Chittenden, 1927; Downie & Arnett, 1996; Frost, 1924; Schwarz, 1890; Smith, 1900, 1910a; Wilcox, 1979).

***Phyllotreta conjuncta* Gentner.** Hosts are Brassicaceae, this species having been reported from *Arabis*, horseradish [*Armoracia rusticana* (Lam.) P. G. Gaertn., B. Mey., & Scherb.], *Barbarea verna* (Mill.) Asch., *B. vulgaris* R. Br., cabbage [*Brassica oleracea* L.], *Brassica pe-tsai* L. H. Bailey [*B. rapa* L.], Chinese cabbage [*B. rapa*], turnip [*B. rapa*], *Lepidium*, radish [*Raphanus sativus* L.], *Rorippa nasturtium-aquaticum* (L.) Hayek., *R. palustris* (L.) Besser, and *Brassica kaber* (DC.) L. C. Wheeler [*Sinapis arvensis* L.] (Burgess, 1981c; Smith, 1985; Wilcox, 1979).

This beetle species has also been recorded from lettuce [*Lactuca*] (Asteraceae); three-seeded mercury [*Acalypha*] (Euphorbiaceae); alfalfa [*Medicago sativa* L.], *Trifolium pratense* L., “W. Clover” [likely white clover, *T. repens* L.] (Fabaceae); wheat [*Triticum*] (Poaceae); smartweed [*Polygonum*] (Polygonaceae); *Prunus virginiana* L. (Rosaceae); willow [*Salix*] (Salicaceae); and sphagnum moss [*Sphagnum*] (Sphagnaceae) (Smith, 1985). However, these occurrences were likely incidental. We have identified series of this beetle from the Texas panhandle labeled “on cabbage” and “feeding on Indian mustard.”

***Phyllotreta constricta* Smith.** This species has been recorded from turnip [*Brassica rapa* L.], *Lepidium alyssoides* A. Gray [*L. montanum* ssp. *alyssoides* (A. Gray) C. L. Hitchcock], *Rorippa palustris* (L.) Besser (Brassicaceae); and *Cleome serrulata* Pursh [*C. integrifolia* Torr. & Gray] (Capparaceae) (Smith, 1985). Beyond this, we have identified series from the Texas panhandle labeled “feeding on Indian mustard” [*Brassica juncea* (L.) Czern.] and “on cabbage” [*Brassica oleracea* L.].

***Phyllotreta cruciferae* (Goeze).** This species, including populations in the Old World, has been recorded from *Amaranthus caudatus* L., *A. retroflexus* L. (Amaranthaceae); *Asclepias syriaca* L. (Asclepiadaceae); *Artemisia abrotanum* L., *A. absinthium* L., lettuce [*Lactuca*], *Tanacetum vulgare* L. (Asteraceae); *Alliaria officinalis* Andr. ex DC. [*A. petiolata* (Bieb.) Cavara & Grande], *Alyssum*, *Arabis glabra* (L.) Bernh., *A. turritia* L., *Armoracia rusticana* (Lam.) P. G. Gaertn., B. Mey., & Scherb., *Barbarea vulgaris* R. Br., *Brassica juncea* (L.) Czern., *B. napus* L., *B. nigra* (L.) W. D. J. Koch, *B. oleracea* L., *B. rapa* L., *Cakile maritima* Scop., *Camelina sativa* (L.) Crantz., *Capsella bursa-pastoris* (L.) Medik., *Cardamine diphylla* (Michx.) Wood, *Cardaria draba* (L.) Desv., *Cochlearia*, *Crambe abyssinica* Hochst. ex RE Fr., *Descurainia sophia* (L.) Webb in Engler & Prantl, *Diplotaxis eruroides* (L.) DC., *Eruca*, *Erucaria boveana* Cosson, *E. hispanica* (L.) Druce, *Erysimum canescens* Roth, *E. cheiranthoides* L., *Hirschfeldia incana* (L.) Lagr.-Fossat, *H. pollichii* Fritsch, *Lepidium campestre* (L.) R. Br., *L. densiflorum* Schrad., *L. draba* L., *L. ramosissimum* A. Nels., *L. ruderalis* L., *L. subulatum* L., *L. virginicum* L., *Lobularia maritima* (L.) Desv., *Nasturtium*, *Neslia paniculata* (L.) Desv., *Raphanus raphanistrum* L., *R. sativus* L., *Rapistrum perenne* (L.) All., *Rorippa amphibia* (L.) Bess., *R. austriaca* (Crantz) Spach, *Nasturtium officinale* R. Br. [*R. nasturtium-aquaticum* (L.) Hayek.], *R. sylvestris* (L.) Bess., *Sinapis alba* L., *S. arvensis* L., Jim Hill mustard [*Sisymbrium altissimum* L.], *Sisymbrium irio* L., *S. loeselii* L., *S. officinale* (L.) Scop., *S. orientale* L., *S. sinapistrum* Crantz, *Thlaspi arvense* L. (Brassicaceae); *Cleome pungens* auct. non Willd. [*C. hassleriana* Chod.] (Capparaceae); *Gypsophila struthium* L. (Caryophyllaceae); *Beta vulgaris* L., *Chenopodium album* L., *Salsola vermiculata* L., spinach [*Spinacia oleracea* L.] (Chenopodiaceae); melon [likely *Citrullus lanatus* (Thunb.) Matsum. & Nakai or *Cucumis melo* L.] (Cucurbitaceae); *Juniperus phoenicea* L. (Cupressaceae); vetch [likely *Coronilla* or *Vicia*], pea [likely *Pisum sativum* L.] (Fabaceae); Limnanthaceae (genus not specified); corn [*Zea mays* L.] (Poaceae); *Fagopyrum esculentum* Moench (Polygonaceae); *Reseda lutea* L. (Resedaceae); “*Frutescens grossum*” [possibly *Capsicum frutescens* var. *grossum* L. H. Bailey, now considered to be a synonym of *C. annuum* L.], potato [*Solanum tuberosum* L.] (Solanaceae); *Tropaeolum majus* L., *T. minus* L. (Tropaeolaceae); and *Urtica gracilis* Ait. [*U. dioica* ssp. *gracilis* (Ait.) Seland.] (Urticaceae) (Abdullah & Qureshi, 1969; Altieri & Schmidt (1986); Anderson *et al.*, 1992; Andow *et al.*, 1986; Anonymous, 1963r, 1965c; Aslan *et al.*, 2003; Balsbaugh *et al.*, 1967; Bastazo *et al.*, 1993; Biondi, 1993; Bodnaryk & Lamb, 1991a, 1991b; Bodnaryk & Palaniswamy, 1990; Boiteau, 1983a; Bonnemaïson, 1965; Brandt & Lamb, 1991, 1993; Brown, 1967; Burbutis, 1962d; Burgess, 1977, 1980a, 1980b, 1981a, 1981b, 1981c, 1982a, 1982b; Cagán *et al.*, 2000; Carr, 1988; Clark, 2000; Dailey *et al.*, 1978; Dobson, 1956; Doguet, 1994; Evans, 1967; Feeny *et al.*, 1970; Furth, 1979b, 1983; Feeny *et al.*, 1970; Gavloski & Lamb, 2000a, 2000b; Gentry, 1965; Gerber & Obadorfin, 1981b; Goble, 1966; Hatch, 1971; Hicks & Tahvanainen, 1974, 1983; Hofmaster, 1965a; Jolivet & Petitpierre, 1980; Jolivet & Verma, 2002; Kareiva, 1985; Kinoshita *et al.*, 1979; Kirk & Balsbaugh, 1975; Knowlton, 1958a; Lamb, 1980, 1983, 1984, 1988a, 1988b, 1989; Lamb & Pachagounder, 1990; Lamb & Palaniswamy, 1990; Lamb *et al.*, 1993; Lopatin, 1984; McDaniel *et al.*, 1992; McLeod & Weiss, 1992; Milliron, 1953a, 1958; Mohr, 1966; Newton, 1928; Nielsen, 1988; Norris & Kogan, 2000; Palaniswamy & Lamb, 1992, 1993, 1998; Palaniswamy, Lamb, & Bodnaryk, 1997, 1998; Palaniswamy, Lamb, & McVetty, 1992; Palaniswamy, Matheson, & Lamb, 1998; Papp, 1984; Petitpierre, 1999; Petitpierre *et al.*, 2000; Pimentel, 1961; Riley & Enns, 1979; Root, 1973; Root

& Tahvanainen, 1969; Smith *et al.*, 1980; Swan & Papp, 1972; Tahvanainen, 1972; Tahvanainen & Root, 1970, 1972; Turnock *et al.*, 1987; Vaughn & Hoy, 1993; Verdyck, 1999; Vig, 1991a, 1992a, 1992b, 1997; Vig & Rozner, 1996; Vincent & Stewart, 1981; Westdal & Romanow, 1972; Wilcox, 1979; Wylie, 1979).

Of the above-mentioned associations, many of those with families other than Brassicaceae, Capparaceae, Podostemaceae, and Tropaeolaceae may well have been incidental. Knowlton (1957b) recorded *P. cruciferae* from blue spruce duff [*Picea pungens* Engelm.] (Pinaceae), but this should not be considered a host association.

In previously unpublished observations, Derek Sikes (pers. comm.) has found *P. cruciferae* in Rhode Island in association with *Cakile edentula* (Bigel.) Hook. (Brassicaceae). In Massachusetts, we have found an adult on this same plant species. In Colorado, we have collected a series from *Euclidium syriacum* (L.) R. Br. (Brassicaceae).

Knowlton (1957a) recorded "*Phyllotreta* sp. probably *cruciferae*" damaging black mustard [*Brassica nigra*] and Jim Hill mustard [*Sisymbrium altissimum*] (Brassicaceae), as well as *Cleome lutea* Hook. (Capparaceae). He also recorded beetles from among blue spruce duff [*Picea pungens*] (Pinaceae), but this should not be interpreted as a host association.

Feeny *et al.* (1970) conducted laboratory experiments in which *P. cruciferae* fed on *Barbarea vulgaris*, *Brassica napus*, *B. oleracea*, *Hesperis matronalis* L., *Lepidium campestre*, *L. virginicum*, *Lunaria annua* L., *Raphanus sativus*, *Brassica kaber* (DC.) L. C. Wheeler [*Sinapis arvensis*], *Sisymbrium officinale* (Brassicaceae); *Limnanthes douglasii* R. Br. (Limnanthaceae); and *Tropaeolum minus* (Tropaeolaceae). They noted that Limnanthaceae and Tropaeolaceae are chemically similar to Brassicaceae. Under experimental conditions, beetles have also fed on *Brassica amplexicaulis* Batt., *B. balearica* Pers., *B. barrelieri* (L.) Janka, *B. carinata* A. Braun, *B. drepanensis* (Carvel) Damanti, *B. elongata* Ehrh., *B. gravinae* Tenore, *B. incana* Ten., *B. macrocarpa* Guss., *B. maurorum* Dur., *B. spinescens* Pomel, *B. tournefortii* Gouan, *Camelina sativa*, *Cap-sella bursa-pastoris*, *Descurainia pinnata* (Walt.) Britt., *D. richardsonii* (Sweet) O. E. Schulz, *Erucastrum gallicum* (Willd.) O. E. Schulz, *Rorippa islandica* (Oeder ex Murray) Borbás, *Sinapis allionii* Jacq., *S. auch-eri* Schultz, *S. flexuosa* Poir., and *S. pubescens* L. (Brassicaceae), but some of these plants were only nibbled upon (Palaniswamy & Lamb, 1998; Palaniswamy, Lamb, & Bodnaryk, 1997, 1998; Palaniswamy, Lamb, & McVetty, 1992; Wylie, 1979).

Under laboratory conditions, starved adults have also fed on *Urtica gracilis* [*U. dioica* ssp. *gracilis*] (Urticaceae) (Wylie, 1979). Additionally, Burgess (1982b) reported that, in laboratory tests, this beetle species was attracted to and attempted to feed on the moss *Pleurozium schreberi* (Willd. ex Brid.) Mitt. (Hycomiaceae). However, no beetles were observed feeding on moss in nature. Also in laboratory experiments, beetles have fed on *Phaseolus vulgaris* L. (Fabaceae) treated with mustard oil (Bodnaryk & Palaniswamy, 1990; Jolivet & Petitpierre, 1980), but this plant is probably not a host in nature.

***Phyllotreta decipiens* Horn.** This species has been recorded from *Artemisia*, *Solidago* (Asteraceae); *Brassica rapa* L., *Raphanus sativus* L. (Brassicaceae); *Beta vulgaris* L. (Chenopodiaceae); bean [likely *Phaseolus vulgaris* L.] (Fabaceae); and *Solanum tuberosum* L. (Solanaceae) (Anonymous, 1960n; Beller & Hatch, 1932; Carr, 1988; Chittenden, 1927; Forbes & Hart, 1900; Hatch, 1971; Knowlton, 1954b; Patch, 1913; Smith, 1985; Stirrett, 1924). Of these plants, the brassicaceous species are likely preferred hosts.

***Phyllotreta denticornis* Horn.** Smith (1985) recorded this species from mustard [*Brassica* or a similar genus] (Brassicaceae). He also recorded it from *Medicago sativa* L. (Fabaceae), but this occurrence was likely adventitious.

***Phyllotreta emarginata* Smith.** This species has been reported from Brassicaceae (genus not specified) and *Medicago sativa* L. (Fabaceae) (Carr, 1988; Smith, 1985). The association with *Medicago* was likely adventitious.

***Phyllotreta herbacea* Chittenden.** This species has been observed feeding on turnip [*Brassica rapa* L.] (Brassicaceae) (Chittenden, 1927).

***Phyllotreta lepidula* (LeConte).** In previously unpublished investigations in California, we have associated this species with *Sisymbrium altissimum* L. (Brassicaceae).

***Phyllotreta lewisii* (Crotch).** This species feeds on Brassicaceae, including cabbage [*Brassica oleracea* L.], cauliflower [*Brassica oleracea*], kohlrabi [*Brassica oleracea*], turnip [*Brassica rapa* L.], mustard [*Brassica* or a similar genus], and *Raphanus sativus* L. (Beirne, 1971; Carr, 1988; Daniels & Thatcher, 1965; Hatch, 1971). Hosts are also species of *Cleome* (Capparaceae), including *C. serrulata* Pursh [*C. integrifolia* Torr. & Gray] (Beller & Hatch, 1932; Brisley, 1925; Chittenden, 1923a, 1927; Downie, 1957; Downie & Arnett, 1996; Hatch, 1971; Knowlton, 1955c; Kumar *et al.*, 1976; Lavigne, 1976; Wilcox, 1979).

Associations have also been reported with skunk-weed [likely *Symplocarpus* (Araceae), *Cannabis* (Cannabaceae), or *Navarretia* (Polemoniaceae)], *Beta vulgaris* L. (Chenopodiaceae), *Medicago sativa* L. (Fabaceae), rhubarb [*Rheum rhubarbarum* L.] (Polygonaceae), and potato [*Solanum tuberosum* L.] (Solanaceae) (Beirne, 1971; Chittenden, 1923a, 1927; Downie & Arnett, 1996; Hatch, 1971; Wilcox, 1954, 1979). However, these are probably not preferred hosts.

***Phyllotreta liebecki* Schaeffer.** Hosts are Brassicaceae, including *Arabis virginica* (L.) Poir., *Brassica napus* L., Chinese cabbage [*B. rapa* L.], pe-tsai [*B. rapa*], turnip [*B. rapa*], mustard [*Brassica* or a similar genus], *Lepidium virginicum* L., *Radicula walteri* (Ell.) Greene, *Raphanus sativus* L., and *Rorippa obtusa* (Nutt. ex Torr. & A. Gray) N. L. Britt. (Chittenden, 1923a, 1927; Frost, 1924; Smith, 1985; Wilcox, 1979). This beetle species has also been reported from *Melilotus alba* Medik. (Fabaceae) and brome grass [*Bromus*] (Poaceae) (Smith, 1985), but these are probably not normal hosts.

***Phyllotreta oblonga* Chittenden.** This species has been collected from horseradish [*Armoracia rusticana* (Lam.) P. G. Gaertn., B. Mey., & Scherb.], *Cardamine bulbosa* (Schreb. ex Muhl.) B.S.P., and *Lepidium virginicum* L. (Brassicaceae) (Chittenden, 1927; Clark, 2000; Smith, 1985; Wilcox, 1979).

***Phyllotreta oregonensis* (Crotch).** This species has been recorded from *Brassica oleracea* L., turnip [*B. rapa* L.], mustard [*Brassica* or a similar genus], *Lepidium spathulatum* Phil., *Radicula terrestris* (R. Br.) Wootton & Standley, radish [*Raphanus sativus* L.], *Rorippa palustris* (L.) Besser (Brassicaceae); and *Cleome serrulata* Pursh [*C. integrifolia* Torr. & Gray] (Capparaceae) (Beller & Hatch, 1932; Chittenden, 1923a, 1927; Frost, 1949; Hatch, 1971; Smith, 1985; Stirrett, 1924). However, as noted by Smith (1985), some reported associations with turnip [*Brassica rapa*] and *Rorippa palustris* were in actuality based on specimens of *Phyllotreta attenuata* Smith and *P. constricta* Smith.

Beyond Brassicaceae and Capparaceae, this beetle species has been reported from sugar beet [*Beta vulgaris* L.], *Eurotia lanata* (Pursh) Moq. (Chenopodiaceae); and potato [*Solanum tuberosum* L.] (Solanaceae) (Chittenden, 1923a, 1927; Hatch, 1971; Smith, 1985). However, these are probably not normal hosts.

***Phyllotreta prasina* Chittenden.** Knowlton (1955c) reported that this species was common in white-top [likely *Cardaria*] (Brassicaceae). He also stated that it had been collected by sweeping alfalfa [*Medicago sativa* L.] (Fabaceae).

***Phyllotreta punctulata* (Marshall).** This species is often associated Brassicaceae, having been reported from *Alliaria*, *Arabis*, *Armoracia lapathifolia* Gilib. [*Armoracia rusticana* (Lam.) P. G. Gaertn., B. Mey., & Scherb.], *Brassica napus* L., *B. oleracea* L., *B. rapa* L., *Bunias*, *Cakile maritima* Scop., *Diplotaxis*, *Erysimum verrucosum* Boiss. & Gaill., *Isatis tinctoria* L., *Lepidium campestre* (L.) R. Br., *Raphanus sativus* L., *Rapistrum rugosum* (L.) All., *Sinapis arvensis* L., and *Sisymbrium altissimum* L., but it is also sometimes found on *Reseda odorata* L. (Resedaceae) (Beirne, 1971; Biondi, 1993; Chittenden, 1926, 1927; Dobson, 1956; Doguet, 1994; Downie & Arnett, 1996; Frost, 1949; Furth, 1979b; Petitpierre, 1999; Verdyck, 1999; Vig, 1997; Wilcox, 1979). Beyond Brassicaceae and Resedaceae, *P. punctulata* has been reported feeding on wax bean [*Phaseolus vulgaris* L.] (Fabaceae) when brassicaceous plants were not available (Chittenden, 1926).

***Phyllotreta pusilla* Horn.** This species has been recorded from *Daucus carota* L. (Apiaceae); *Lactuca sativa* L. (Asteraceae); alpine rock cress [likely *Arabis alpina* L.], *Armoracia rusticana* (Lam.) P. G. Gaertn., B. Mey., & Scherb., *Brassica juncea* (L.) Czern., *B. napus* L., *B. oleracea* L., *B. rapa* L., white-top [likely *Cardaria*], wallflower [*Erysimum*], *Descurainia pinnata* (Walt.) Britt., *Iberis*, *Lepidium pubicarpum* A. Nelson, *L. virginicum* L., *Lobularia maritima* (L.) Desv., stock [*Matthiola incana* (L.) R. Br.], *Raphanus sativus* L., *Rorippa nasturtium-aquaticum* (L.) Hayek., *R. sinuata* (Nutt. ex Torr. & A. Gray) A. Hitchc., *R. sphaerocarpa* (A. Gray) Britton, *Sisymbrium canescens* Nutt., *S. irio* L., *S. officinale* (L.) Scop. (Brassicaceae); cactus flowers [Cactaceae]; *Cleome serrulata* Pursh [*C. integrifolia* Torr. & Gray], *C. jonesii* (J. F. Macbr.) Tidestrom [*C. lutea* var. *jonesii* Macbr.] (Capparaceae); *Beta vulgaris* L., *Chenopodium quinoa* Willd., spinach [*Spinacia oleracea* L.] (Chenopodiaceae); alfalfa [*Medicago sativa* L.], *Phaseolus vulgaris* L., *Pisum sativum* L. (Fabaceae); *Bouteloua eriopoda* (J. Torr.) J. Torr., *Hordeum*, wheat [*Triticum*], *Zea mays* L. (Poaceae); *Lycopersicon esculentum* Mill., *Solanum tuberosum* L. (Solanaceae); and *Tropaeolum* (Tropaeolaceae) (Abdullah & Qureshi, 1969; Anonymous, 1960e, 1961b, 1970a, 1971c; Balsbaugh *et al.*, 1967; Beirne, 1971; Beller & Hatch, 1932; Bibby, 1961; Bishop, 1963; Brandvik, 1970; Brisley, 1925; Campbell, 1953; Carr, 1988; Chittenden, 1903b, 1903c, 1912b, 1923a, 1927; Chittenden & Marsh, 1920b; Cranshaw, 1992; Crosby & Leonard, 1918; Davidson & Lyon, 1987; Dean, 1915; Douglass, 1929; Essig, 1915b, 1958; Forbes, 1905; Frost, 1949; Gittins, 1956, 1957a, 1957b, 1958a, 1958b, 1958c, 1959; Gittins & Priest, 1958; Harding, 1959b, 1960a, 1960c; Homan, 1965; Howard, 1898; Hunter *et al.*, 1912; Jaques, 1951; Kaatz, 1970; Knowlton, 1955c; Knowlton & Thornley, 1960; Kohl & Portman, 1963; Mackie, 1957; Metcalf & Metcalf, 1993; Neiswander, 1931; Papp, 1984; Pirone, 1970; Portman & Manis, 1954; Radcliffe *et al.*, 1990; Roemhild, 1959, 1962; Schow, 1963; Stirrett, 1924; Swan & Papp, 1972; Thomas & Werner, 1981; Townsend, 1895; Watts, 1963; Weigel & Baumhofer, 1948; Westcott, 1946; Wildermuth, 1917). Of the above-mentioned plants, Brassicaceae, Capparaceae, and Tropaeolaceae likely represent preferred hosts.

***Phyllotreta ramosa* (Crotch).** Hosts are Brassicaceae, including *Brassica napus* L., *B. nigra* (L.) W. D. J. Koch, *B. oleracea* L., *B. rapa* L., *Erysimum asperum* (Nutt.) DC., *E. cheiri* (L.) Crantz, *Matthiola incana* (L.) R. Br., *Raphanus sativus* L., and *Nasturtium officinale* R. Br. [*Rorippa nasturtium-aquaticum* (L.) Hayek.] (Carr, 1988; Chittenden, 1927; Crosby & Leonard, 1918; Davidson & Lyon, 1987; Downie & Arnett,

1996; Essig, 1915b, 1958; Hatch, 1971; Papp, 1984; Pirone, 1970; Scott *et al.*, 1932; Smith, 1985; Stirrett, 1924; Swan & Papp, 1972; Westcott, 1946; Wilcox, 1979). In previously unpublished investigations, we have associated California populations with *Lepidium*.

This beetle species has also been reported from *Asclepias* (Asclepiadaceae), *Cupressus macrocarpa* Hart. ex Gord. (Cupressaceae), cotton [*Gossypium*] (Malvaceae), and strawberry [*Fragaria*] (Rosaceae) (Roth, 1962; Smith, 1985). However, these plants are probably not preferred hosts.

***Phyllotreta ramosoides* Smith.** This species has been reported from turnip [*Brassica rapa* L.] (Brassicaceae) (Smith, 1985).

***Phyllotreta robusta* LeConte.** This species has been associated with Brassicaceae, including *Brassica napus* L., *B. oleracea* L., *B. rapa* L., *Lepidium*, *Raphanus sativus* L., *Rorippa nasturtium-aquaticum* (L.) Hayek., and *Sinapis arvensis* L. (Beirne, 1971; Burgess, 1977, 1981c, 1982a, 1982b; Chittenden, 1927; Clark, 2000; Downie & Arnett, 1996; Hatch, 1971; Smith, 1985; Wilcox, 1954, 1979; Wylie, 1979).

Beyond Brassicaceae, this beetle species has been reported from *Poa pratensis* L. (Poaceae) and *Elaeagnus commutata* Bernh. ex Rydb. (Thymelaeaceae) (Smith, 1985), but these occurrences were probably adventitious. Beetles have also been swept from oats [*Avena*] and wheat [*Triticum*] (Poaceae) (Douglass, 1929). However, sweeping records, without supporting evidence, should not be interpreted as host associations. Boiteau (1983a) included *P. robusta* in a list of insects collected from potato fields [*Solanum tuberosum* L.] (Solanaceae), but this also should not necessarily be regarded as a host association.

***Phyllotreta striolata* (Fabricius).** This species, sometimes cited as the synonyms *P. sinuata* (Redtenbacher) and *P. vittata* (Fabricius), feeds on Brassicaceae, having been recorded from alpine rock cress [likely *Arabis alpina* L.], *Armoracia rusticana* (Lam.) P. G. Gaertn., B. Mey., & Scherb., *Barbarea verna* (Mill.) Asch., *B. vulgaris* R. Br., *Berteroa incana* (L.) DC., *Brassica juncea* (L.) Czern., *B. napus* L., *B. nigra* (L.) W. D. J. Koch, *B. oleracea* L., *B. rapa* L., *Cakile edentula* (Bigel.) Hook., *C. maritima* Scop., *Capsella bursa-pastoris* (L.) Medik., *Cardamine diphylla* (Michx.) Wood, *C. flexuosa* With., *Descurainia sophia* (L.) Webb in Engler & Prantl, *Eruca*, *Erysimum cheiranthoides* L., *E. cheiri* (L.) Crantz, *Hesperis matronalis* L., *Iberis*, *Lepidium campestre* (L.) R. Br., *L. densiflorum* Schrad., *L. sativum* L., *L. virginicum* L., *Lobularia maritima* (L.) Desv., *Lunaria annua* L., *Matthiola incana* (L.) R. Br., *Raphanus sativus* L., *Nasturtium montanum* Wall. ex Hook. f. & Thompson [*Rorippa indica* (L.) Hiern], *Rorippa islandica* (Oeder ex Murray) Borbás, *R. nasturtium-aquaticum* (L.) Hayek., *R. palustris* (L.) Besser, *R. sylvestris* (L.) Bess., *Sinapis alba* L., *S. arvensis* L., *Sisymbrium*, *Thlaspi arvense* L., and “Texas green mustard” (Abdullah & Qureshi, 1969; Andow *et al.*, 1986; Bain & LeSage, 1998; Balsbaugh & Hays, 1972; Balsbaugh *et al.*, 1967; Beirne, 1971; Beutenmüller, 1890a; Blatchley, 1910, 1924a; Brett & Rudder, 1966; Burgess, 1977, 1981a, 1981b, 1981c, 1982a; Burgess & Wiens, 1976; Carr, 1920, 1988; Cassidy, 1889; Chamberlin, 1949; Chittenden, 1895b, 1912b, 1923a, 1927; Chupp & Leiby, 1953; Clark, 2000; Comstock, 1925; Comstock *et al.*, 1931; Crosby & Leonard, 1918; Davidson & Lyon, 1987; Dean, 1915; Dillon & Dillon, 1961; Doguet, 1994; Douglass, 1929; Downie & Arnett, 1996; Dozier, 1922; Duckett, 1920; Dugas, 1938; Duporte, 1914; Dustan, 1932; Essig, 1915b; Feeny *et al.*, 1970; Forbes & Hart, 1900; Fowler, 1912; Frost, 1949; Garman, 1892; Gerber & Obadorfin, 1981b; Gibson, 1913, 1914, 1928; Hallock, 1939; Hamilton, 1895; Harrington, 1883; Harris, 1841, 1851, 1863; Harukawa & Tokunaga, 1938; Hatch, 1971; Hicks & Tahvanainen, 1974; Hopkins, 1891a, 1891b; Hopkins & Rumsey, 1896; Hutson, 1937; Johannsen, 1913; Jolivet & Petitpierre, 1980; Kareiva, 1985; Kirk, 1969, 1970; Lamb, 1983, 1984, 1988a, 1988b, 1989; Lamb & Pachagounder, 1990; Lamb & Palaniswamy, 1990; Lamb *et al.*, 1993; Levesque & Levesque, 1998; Lintner, 1891; Lugger, 1899; Madar, 1959; Matheson, 1944; Meisner & Mitchell, 1983; Milliron, 1958; Mohr, 1966; Murtfeldt, 1890; Needham *et al.*, 1928; Newton, 1928; Nielsen, 1988; Packard, 1877, 1888; Palaniswamy & Lamb, 1992; Peterson, 1960; Petitpierre, 1999; Pimentel, 1961; Pond, 1956; Popenoe, 1877; Putnam, 1977; Riley, 1884; Root, 1973; Root & Tahvanainen, 1969; Shimer, 1868; Shropshire & Kadow, 1936; Smith, 1900, 1910a, 1985; Smith *et al.*, 1980; Sorensen, 1994; Sorensen & Baker, 1983; Stear, 1918; Stirrett, 1924; Swan & Papp, 1972; Tahvanainen, 1972, 1983; Tahvanainen & Root, 1970; Tokunaga & Kadowaki, 1949, 1950; Turnock *et al.*, 1987; Vig, 1991a, 1992a; Vincent & Stewart, 1981; Walsh & Riley, 1869b; C. M. Weed, 1895; Weigel & Baumhofer, 1948; Westcott, 1946; Westdal & Romanow, 1972; Wilcox, 1954, 1979; Winn, 1911; Wylie, 1979). Additionally, Smith (1985) recorded *P. striolata* from Pelfer grass, which conceivably might be some species of Brassicaceae. Beyond these records, Campobasso *et al.* (1999) reported “*Phyllotreta striolata* ? (F.)” from *Cardaria draba* (L.) Desv. In previously unpublished investigations in California, we have associated *P. striolata* with *Barbarea orthoceras* Ledeb. Under experimental conditions, *P. striolata* has fed on several of the plants mentioned above, and also on *Brassica japonica* Sibold and *Eutrema wasabi* (Sieb.) Maxim. (Tokunaga & Kadowaki, 1949).

This beetle species apparently also utilizes Capparaceae, having been recorded from *Cleome pungens* auct. non Willd. [*C. hassleriana* Chod.] (Balsbaugh *et al.*, 1967; Chittenden, 1927; Feeny *et al.*, 1970; Smith, 1985). Similarly, it feeds on Tropaeolaceae, having been recorded from *Tropaeolum minus* L. (Tropaeolaceae) (Feeny *et al.*, 1970).

Smith (1985) recorded *P. striolata* from swamp cabbage. This report conceivably could have been based on *Brassica oleracea* or on some other species of Brassicaceae. However, swamp cabbage is a common name sometimes used in reference to *Sabal palmetto* (Walt.) Lodd. ex Schult. & Schult. f. (Arecaceae) or to some species of *Ipomoea* (Convolvulaceae). Another possibility is that this report was based on skunk cabbage, a common name for either *Lysichiton camtschatcense* (L.) Schott. or *Symplocarpus foetidus* (L.) W. Salisb. (Araceae). Of these interpretations, all plants other than Brassicaceae would have likely involved incidental occurrences.

Beyond Brassicaceae, Capparaceae, and Tropaeolaceae, *P. striolata* has also been reported from celery [*Apium*], *Daucus carota* L. (Apiaceae); *Ilex glabra* (L.) A. Gray (Aquifoliaceae); *Galinsoga ciliata* (Raf.) Blake [*G. quadriradiata* Ruiz & Pavin], *Lactuca sativa* L. (Asteraceae); *Beta vulgaris* L., *Chenopodium album* L. (Chenopodiaceae); *Citrullus vulgaris* Schrad. ex Eckl. & Zeyh. [*C. lanatus* (Thunb.) Matsum. & Nakai], *Cucumis melo* L., *C. sativus* L., *Cucurbita moschata* (Duchn. ex Lam.) Duchn. ex Poir., *Momordica charantia* L., *Sechium edule* (Jacq.) Sw. (Cucurbitaceae); *Amorpha fruticosa* L., *Glycine hispida* (Moench) Maxim. [*G. max* (L.) Merr.], *Medicago sativa* L., *Melilotus*, snap bean [*Phaseolus vulgaris* L.], *Pisum sativum* L., *Trifolium pratense* L. (Fabaceae); *Carya* (Juglandaceae); *Lythrum salicaria* L. (Lythraceae); cotton [*Gossypium*] (Malvaceae); *Morus* (Moraceae); banana [*Musa*] (Musaceae); *Oenothera biennis* L. (Onagraceae); plantain [*Plantago*] (Plantaginaceae); sycamore [*Platanus*] (Platanaceae); *Limonium sinuatum* (L.) P. Mill. (Plumbaginaceae); oats [*Avena*], brome grass [*Bromus*], rye [*Elymus* or *Secale*], *Hordeum vulgare* L., millet [*Panicum* or *Setaria*], timothy [*Phleum*], bluegrass [*Poa*], sorghum [*Sorghum*], *Triticum vulgare* Vill. [*T. aestivum* L.], maize [*Zea mays* L.], sweet corn [*Z. mays*] (Poaceae); *Polygonum*, *Rumex acetosa* L. (Polygonaceae); *Fragaria chiloensis* (L.) Duchn., wild cherry [*Prunus*] (Rosaceae); cottonwood [*Populus*], willow [*Salix*] (Salicaceae); *Capsicum annuum* L., *Lycopersicon esculentum* Mill., tobacco [*Nicotiana*], *Solanum melongena* L., potato [*Solanum tuberosum* L.] (Solanaceae); nettle [likely *Urtica*] (Urticaceae); and *Vitis rotundifolia* Michx. (Vitaceae) (Abdullah & Qureshi, 1969; Anonymous, 1960n, 1961a, 1961b, 1962e, 1963c, 1963r, 1964f, 1965c, 1965n, 1966c, 1966e; Barwood & Seibels, 1963; Batra, 1979; Batra *et al.*, 1986; Beirne, 1971; Blatchley, 1910, 1924a; Boiteau, 1983a; Boyes *et al.*, 1966; Bruner, 1891c; Bulla, 1961; Burbutis & Mason, 1960j, 1961g; Burgess, 1977; Carr, 1988; Chittenden, 1895b, 1927; Crosby & Leonard, 1918; Davidson, 1958; Dickerson & Weiss, 1920; Douglass, 1929; Duckett, 1920; Feeny *et al.*, 1970; Forbes & Hart, 1900; Fox & Stirrett, 1952; Fullerton, 1961a, 1961b, 1961c, 1961d, 1962a, 1962b, 1962c, 1962d, 1962e, 1962f, 1963; Galford & Lyon, 1964; Garman, 1892; Grimes, 1959c; Hallock, 1939; Hantsbarger, 1963; Hantsbarger & Klix, 1958a, 1958b; Hatch, 1971; Haws, 1962; Hintz, 1962a, 1962c, 1963a; Jackson, 1963; Johanssen, 1913; Johnson & Williams, 1966; Jones, 1965; Klix & Hantsbarger, 1958a; Knowlton, 1959, 1960, 1965; Lago & Mann, 1987; Lamb & Palaniswamy, 1990; Ledbetter & Pinkston, 1965; Lintner, 1891; Locke, 1966; Lugger, 1899; Lyon, 1962; Marks, 1964a, 1964b, 1964c, 1965; McGiffin & Neunzig, 1985; Milliron, 1958; Niemczyk & Guyer, 1963; Peterson, 1962; Rawson, 1959; Riley, 1884; Rouse & Medvedev, 1972; Schweissing, 1967; Seibels, 1963a; Smith, 1985; Sorensen & Baker, 1983; Stirrett, 1924; Tahvanainen, 1972; Tokunaga & Kadowaki, 1949; Walker, 1961; Walsh & Riley, 1869b; Weiss, 1922b). Additionally, Johnson (1916) reported material taken “on plants allied to the fennel family” [could be any of several families]. Apparently, adults do occasionally feed on a variety of abnormal hosts when beetle populations are high or when normal hosts are not readily available. However, some of the above-mentioned occurrences were probably purely incidental.

Burgess (1981b, 1982) reported that certain mosses “proved attractive” to the beetles: *Dicranum polysetum* Sw., *D. scoparium* Hedw. (Dicranaceae); *Pleurozium schreberi* (Willd. ex Brid.) Mitt. (Hycomiaceae); *Polytrichum commune* Hedw., *P. juniperinum* var. *affine* (Funck) Brid. (Polytrichaceae); and *Sphagnum fuscum* (Schimp.) Klinggr. (Sphagnaceae). However, although he observed the beetles feeding on these mosses in the laboratory, he stated that he had never seen such feeding under natural conditions, and he was not able to maintain laboratory colonies on mosses.

***Phyllotreta undulata* (Kutschera).** This species, doubtfully established in the United States, has been reported from North America in association with mustard [*Brassica* or a similar genus] (Brassicaceae) (Frost, 1949). However, this report was likely based on misidentified beetles.

In the Eastern Hemisphere, *P. undulata* is associated with Brassicaceae, having been recorded from *Alliaria officinalis* Andrzej. ex DC. [*A. petiolata* (Bieb.) Cavara & Grande], *Arabis turrita* L., *Armoracia rusticana* (Lam.) P. G. Gaertn., B. Mey., & Scherb., *Barbarea vulgaris* R. Br., *Berteroa incana* (L.) DC., *Brassica napus* L., *B. nigra* (L.) W. D. J. Koch, *B. oleracea* L., *B. rapa* L., *Camelina sativa* (L.) Crantz., *Cardamine impatiens* L., *Coronopus didymus* (L.) Sm., *Descurainia sophia* (L.) Webb in Engler & Prantl, *Diplotaxis muralis* (L.) DC., *Erysimum canescens* Roth, *E. cheiranthoides* L., “*Hirschfeldia obtusangula*,” *H. pollichii* Fritsch, *Lepidium campestre* (L.) R. Br., *L. draba* L., *L. subulatum* L., *Nasturtium*, *Neslia paniculata* (L.) Desv., *Raphanus raphanistrum* L., *R. sativus* L., *Rapistrum perenne* (L.) All., *Rorippa amphibia* (L.) Bess., *R.*

austriaca (Crantz) Spach, *R. sylvestris* (L.) Bess., *Sinapis alba* L., *S. arvensis* L., *Sisymbrium officinale* (L.) Scop., *S. orientale* L., *S. strictissimum* L., and *Thlaspi montanum* L. (Dobson, 1956; Doguet, 1994; Fowler, 1912; Gentry, 1965; Hicks & Tahvanainen, 1974; Lamb, 1989; Mohr, 1966; Newton, 1928; Papp, 1984; Perroud & Montrouzier, 1864; Petitpierre, 1999; Petitpierre *et al.*, 2000; Smith, 1985; Taylor, 1918; Vig, 1991a, 1992a, 1992b, 1997; Vig & Rozner, 1996). Beyond these records, Campobasso *et al.* (1999) reported “*Phyllotreta undulata* ? Kutschera” from *Cardaria draba* (L.) Desv. (Brassicaceae).

Additionally, *P. undulata* feed on plants that are chemically similar to Brassicaceae. Associations have been recorded with *Reseda lutea* L., *R. luteola* L. (Resedaceae); and *Tropaeolum majus* L. (Tropaeolaceae) (Doguet, 1994; Petitpierre, 1999; Petitpierre *et al.*, 2000; Vig, 1992a).

Beyond the families mentioned above, this beetle species has been reported from *Euphorbia esula* L. (Euphorbiaceae), hickory [*Carya*] (Juglandaceae), raspberry [*Rubus*] (Rosaceae), and *Salix alba* L. (Salicaceae) (Campobasso *et al.*, 1999; Fornasari, 1995a; Levesque & Levesque, 1998; Mölleken & Topp, 1997; Smith, 1985). Even so, these plants are probably not normal hosts.

***Phyllotreta utana* Chittenden.** This species has been reported from *Sisymbrium officinale* (L.) Scop. (Brassicaceae), *Beta vulgaris* L. (Chenopodiaceae), and *Medicago sativa* L. (Fabaceae) (Beller & Hatch, 1932; Carr, 1988; Chittenden, 1920, 1927; Frost, 1949; Lazorko, 1973; Smith, 1985). Of these plants, the brassicaceous species seems the most likely host.

***Phyllotreta viridicyanea* Chittenden.** Goeden & Ricker (1974a) reported that “*Phyllotreta* sp., nr. *viridicyanea*” was locally common on leaves of *Ambrosia acanthicarpa* Hook. (Asteraceae).

***Phyllotreta zimmermanni* (Crotch).** This species is associated with Brassicaceae, having been reported from *Arabis ludoviciana* Mey., *Armoracia lapathifolia* Gilib. [*Armoracia rusticana* (Lam.) P. G. Gaertn., B. Mey., & Scherb.], *Barbarea verna* (Mill.) Asch., *B. vulgaris* R. Br., *Brassica napobrassica* (L.) Mill. [*Brassica napus* L.], *B. nigra* (L.) W. D. J. Koch, *B. oleracea* L., *B. rapa* L., shepherd's purse [*Capsella bursa-pastoris* (L.) Medik.], *Dentaria laciniata* Muhl. ex Willd. [*Cardamine concatenata* (Michx.) O. Schwarz], *Cardamine diphylla* (Michx.) Wood, *Lepidium campestre* (L.) R. Br., *L. sativum* L., *L. virginicum* L., *Nasturtium*, *Raphanus sativus* L., *Rorippa islandica* (Oeder ex Murray) Borbás, watercress [*R. nasturtium-aquaticum* (L.) Hayek.], and *R. palustris* (L.) Besser (Balsbaugh & Hays, 1972; Beutenmüller, 1890a; Carr, 1988; Chittenden, 1923a, 1927; Clark, 2000; Dinkins, 1969c; Downie & Arnett, 1996; Frost, 1924, 1949; Garman, 1892; Hicks & Tahvanainen, 1974; Kirk & Balsbaugh, 1975; Metcalf & Metcalf, 1993; Milliron, 1958; Riley, 1884; Root, 1973; Smith, 1985; Tahvanainen, 1972; Westcott, 1946; Wilcox, 1979). In previously unpublished field work in West Virginia, we have collected *P. zimmermanni* from *Raphanus raphanistrum* L.

Beyond brassicaceous associations, this insect species has been recorded from *Narcissus* (Amaryllidaceae); *Asclepias syriaca* L. (Asclepiadaceae); *Ambrosia psilostachya* DC., *Erigeron*, *Helianthus* (Asteraceae); *Cercis canadensis* L., *Desmodium*, *Medicago sativa* L., *Robinia pseudoacacia* L., *Trifolium incarnatum* L., *T. pratense* L., “w. clover” [likely white clover, *T. repens* L.] (Fabaceae); beech [*Fagus grandifolia* Ehrh.], *Quercus rubra* L. (Fagaceae); *Carya*, *Juglans* (Juglandaceae); *Pinus ponderosa* Dougl. ex Lawson & C. Lawson (Pinaceae); *Triticum aestivum* L. (Poaceae); *Fragaria*, *Malus*, Scapthah apple [likely *Malus*], *Prunus persica* (L.) Batsch, wild plum [*Prunus*], *Rubus* (Rosaceae); pepper [*Capsicum*], *Nicotiana*, potato [*Solanum tuberosum* L.] (Solanaceae); *Sphagnum* (Sphagnaceae); and *Urtica holosericea* Nutt. (Urticaceae) (Balsbaugh & Hays, 1972; Carr, 1988; Dailey *et al.*, 1978; Dillon & Dillon, 1961; Kirk, 1970; Lee, 1949; Niemczyk & Guyer, 1963; Smith, 1985; White, 1957). However, these plants are probably not normal hosts. Bickensstaff & Huggans (1962) included *P. zimmermanni* in a list of insects collected from soybean fields [*Glycine max* (L.) Merr.] (Fabaceae), but this should not necessarily be interpreted as a host association.

***Physonota alutacea* Boheman.** This species, including populations in Latin America, is associated with Boraginaceae, having been recorded from *Bourreria huanita* (Lex.) Hemsl., *Cordia abyssinica* R. Br., *C. boissieri* A. DC., *C. curassavica* (Jacq.) Roem. & Schult., *C. dentata* Poir., *C. inermis* (Mill.) I. M. Johnst., *C. macrostachya* (Jacq.) Roem. & Schult., *C. myxa* L., “*Cordia plurispicata*,” *C. seleriana* Fernald, and *C. spinescens* L. (Barber, 1916; Borowiec, 1998, 1999; Buzzi, 1988, 1994; Chaboo & Borowiec, 2003; Clausen, 1978; Flowers & Janzen, 1997; Holloway, 1964; Jolivet, 1988b, 2001; Jolivet & Hawkeswood, 1995; Jolivet & Petitpierre, 1980; Jolivet & Verma, 2002; Julien & Griffiths, 1998; Maes & Staines, 1991; Noguera, 1988; Olmstead, 1996; Sanderson, 1948; Simmonds, 1949; Strauss, 1988; Williams, 1950). Additionally, Windsor *et al.* (1992) recorded “*Physonota* sp., nr. *alutacea*” from *Cordia spinescens* in Panama. Under experimental conditions, *P. alutacea* has also nibbled on several other plants, including *Cordia colococca* L., *C. sebestena* L., and *Lithocardium lockartii* Kuntze, but survival was poor (Simmonds, 1949).

This beetle species has also been reported from *Manihot* (Euphorbiaceae); *Phaseolus vulgaris* L. (Fabaceae); *Gossypium*, *Hibiscus* (Malvaceae); “chilincoco” [*Syzygium malaccense* (L.) Merr. & L. M. Perry] (Myrtaceae); *Oryza*, *Saccharum*, *Sorghum*, *Zea mays* L. (Poaceae); and *Coffea* (Rubiaceae) (Maes & Staines, 1991; Passoa, 1983). However, these occurrences were probably incidental.

***Physonota arizonae* Schaeffer.** This species has been recorded from *Ambrosia ambrosioides* (Cav.) Payne, “*Franseria xanthocarpa*” [possibly *F. acanthicarpa* (Hook.) Coville], “*Gaertneria xanthocarpa*” [possibly *F. acanthicarpa*] (Asteraceae); and gentian [*Gentiana*] (Gentianaceae) (Arnett, 1985; Arnett & Jacques, 1981; Borowiec, 1999; Buzzi, 1988, 1994; Sanderson, 1948).

***Physonota calochroma* (Blake).** The subspecies *P. c. floridensis* (Blake), endemic to Florida, is associated with *Cordia sebestena* L. (Boraginaceae) (Blake, 1966b; Borowiec, 1999; Peck & Thomas, 1998; Riley *et al.*, 2002; Takizawa, 2003; Woodruff, 1976a). A West Indian species, *Physonota jamaicensis* (Linnaeus), has also been reported in the United States in association with *C. sebestena* (Barber, 1916; Blatchley, 1924a; Ferris & Nissen, 1927; Schwarz, 1904; Shirah, 1965); however, as noted by Blake (1966b), these reports were based on misidentified specimens of *P. c. floridensis*. Beyond associations with *Cordia*, *P. c. floridensis* has also been collected from avocado [*Persea americana* Mill.] (Lauraceae), wild cotton [*Gossypium*] (Malvaceae), wild fig [*Ficus*] (Moraceae), and citrus [*Citrus*] (Rutaceae) (Blake, 1966b; Woodruff, 1976a), but these occurrences were probably adventitious.

***Physonota helianthi* (Randall).** Hosts are species of *Helianthus* (Asteraceae), including *H. decapetalus* L., *H. grosseserratus* Martens, *H. hirsutus* Raf., and *H. strumosus* L. (Balsbaugh, 1988; Balsbaugh & Hays, 1972; Borowiec, 1999; Britten *et al.*, 2003; Buzzi, 1988, 1994; Caulfield, 1884, 1886b, 1887; Clark, 2000; Criddle, 1926; Downie & Arnett, 1996; Hamilton, 1884; Kirk, 1971; Kirk & Balsbaugh, 1975; Olmstead, 1996; Peterson, 1960; Randall, 1838a; Riley & Enns, 1979; Sanderson, 1948; Walsh & Riley, 1869f; Wilcox, 1954, 1979). Based on our previously unpublished field work, we confirm the association with *H. grosseserratus*, having collected large series from this plant in Iowa. We also confirm the association with *H. hirsutus*, having associated beetles with this plant in Arkansas and Missouri. Beyond *Helianthus*, this beetle species is reported to live on *Heliopsis* (Asteraceae) (Borowiec, 1999; Buzzi, 1988, 1994; Clark, 2000; Peterson, 1960; Sanderson, 1948; Wilcox, 1979).

The similar species *Physonota unipunctata* (Say) has been reported in association with various Asteraceae (see discussion of *P. unipunctata* below). Many, perhaps all, of these associations were based on misidentifications of *P. helianthi*.

***Physonota pacifica* Spaeth.** This Mexican species, doubtfully recorded from California, has been reported from Asteraceae and Scrophulariaceae (genera not specified) (Carr, 1988).

***Physonota unipunctata* (Say).** This species, both larvae and adults, feeds on *Monarda* (Lamiaceae), including *M. fistulosa* L. (Arnett & Jacques, 1981; Balsbaugh & Hays, 1972; Barber, 1916; Beutenmüller, 1890a; Blatchley, 1910, 1924a; Borowiec, 1999; Buzzi, 1988, 1994; Caulfield, 1886b; Criddle, 1926; Downie & Arnett, 1996; Hamilton, 1884, 1895; Kirk & Balsbaugh, 1975; Marcovitch, 1916; Riley & Enns, 1979; Sanderson, 1948; Wilcox, 1954, 1979).

This beetle species has also been reported from various Asteraceae, including *Gaertneria xanthocarpa* [possibly *Franseria acanthicarpa* (Hook.) Coville], *Helianthus decapetalus* L., *H. hirsutus* Raf., *Silphium*, *Sonchus*, and *Vernonia* (Arnett & Jacques, 1981; Barber, 1916; Blatchley, 1910, 1924a; Borowiec, 1999; Caulfield, 1886b, 1886c; Chagnon, 1917, 1939; Chagnon & Robert, 1962; Comstock, 1925; Jaques, 1951; Löding, 1945; Marcovitch, 1916; Popenoe, 1877; Walsh & Riley, 1869f; Winn, 1917). However, these associations were almost certainly either incidental or based on species of *Physonota* other than true *P. unipunctata*.

Additionally, Kirk & Balsbaugh (1975) recorded *P. unipunctata* feeding on locoweed, which they interpreted as either *Astragalus* or *Oxytropis* (Fabaceae). However, this report was surely in error. This beetle species has also been reported from *Gaura biennis* L. (Onagraceae), grass [Poaceae], and *Crataegus* (Rosaceae) (Arnett & Jacques, 1981; Blatchley, 1910; Marcovitch, 1916; Whelan, 1936; Wilcox, 1979; Winn, 1917), but these occurrences were likely adventitious.

***Plagioderia arizonae* Crotch.** This species feeds on *Salix* (Salicaceae), including black willow [*S. nigra* Marsh.] (Bibby, 1961; Brisley, 1925; Knowlton, 1954a, 1955a, 1955c, 1957a). Also, it is reported to occasionally occur on *Populus wislizeni* (S. Wats.) Sargent (Salicaceae) (Brisley, 1925).

***Plagioderia californica* (Rogers).** Normal hosts are species of *Salix* (Salicaceae), including *S. lasiolepis* Benth. (Carr, 1988; Doane *et al.*, 1936; Essig, 1958; Furniss & Carolin, 1977; Johnson & Lyon, 1991; Keen, 1938, 1952; Rank & Smiley, 1994; Rank *et al.*, 1996; Wilcox, 1972). However, this beetle species has also been reported from *Populus* (Salicaceae) (Carr, 1988). Under experimental conditions, *P. californica* has fed, at least sparingly, on *Populus trichocarpa* J. Torr. & A. Gray ex Hook., *Salix babylonica* L., *S. lucida* Muhl., and *S. scouleriana* Barratt ex Hook. (Rank *et al.*, 1996).

Beyond Salicaceae, this beetle species has been reported from *Alnus* (Betulaceae) (Carr, 1988). However, this is probably not a regular food plant.

***Plagioderia thymaloides* Stål.** Larvae and adults feed on *Xylosma flexuosa* (H. E. K.) Hemsl. (Flacourtiaceae) (Riley *et al.*, 2002). This beetle species has also been intercepted in shipments of bromeliad [Bromeli-

aceae] and orchid [Orchidaceae] (Anonymous, 1958I), but this should not be interpreted as a host association.

***Plagiodera versicolora* (Laicharting).** This species, including Palearctic populations, is associated with Salicaceae, having been reported from *Populus deltoides* Marshall, *P. nigra* L., *Salix alba* L., *S. babylonica* L., *S. caprea* L., *S. caroliniana* Michx., *S. discolor* Muhl., *S. interior* Rowlee [*S. exigua* ssp. *interior* (Rowlee) Cronquist], *S. fragilis* L., *S. integra* Thunb., *S. lasiolepis* Benth., *S. lucida* Muhl., *S. miyabeana* Seemen, *S. nigra* Marsh., *S. nigricans* Smith, *S. pentandra* L., *S. phylicifolia* L., and *S. sachalinensis* Fr. Schm. (Anderson, 1960; Anonymous, 1985, 2001b; Bach & Carr, 1990; Baker, 1972; Bechyné, 1956; Bogatko, 1989, 1990; Breden & Wade, 1985, 1987, 1989; Britton & Zappe, 1927; Bromley, 1949; Brown, 1946; Clark, 2000; Cox, 1982; Dearborn & Donahue, 1993; Dodge *et al.*, 1990; Dowden, 1940; Downie & Arnett, 1996; Felt, 1930; Goidanich, 1956; Hacker, 1975; Hale & Grant, 2003; Herrick, 1935; Hood, 1940; Ishihara *et al.*, 1999; Johnson & Lyon, 1991; Jolivet, 2001; Jolivet & Verma, 2002; Kouki, 1993b; Lawson, 1991; Lee, 1996; LeSage *et al.*, 1994; Lopatin, 1984; MacAloney, 1950; McCauley & O'Donnell, 1984; McCauley *et al.*, 1988; McDowell, 1955, 1960; Messina & Root, 1980; Mohr, 1966; Mölleken & Topp, 1997; Paine *et al.*, 1993; Pasteels *et al.*, 1986; Peterson, 1960; Pirone, 1970; Raizenne, 1975; Raupp, 1985; Raupp & Denno, 1984; Raupp & Sadof, 1989; Raupp *et al.*, 1986; Riley *et al.*, 2002; Schaeffer, 1915, 1928a; Staines, 1999; Steinhausen, 1996; Strauss, 1988; Vig, 1992b, 1996, 1997; Vig & Rozner, 1996; Wade, 1994; Wade & Breden, 1986; Weiss, 1919b; Weiss & Dickerson, 1917; Westcott, 1946; Whitehead & Duffield, 1982; Wilcox, 1954, 1972, 1979; Wilson *et al.*, 1982).

In laboratory experiments, *P. versicolora* has fed on several of the plants mentioned above, as well as on *Populus alba* L., *P. x canadensis* Moench, *Salix cinerea* L., *S. daphnoides* Vill., *S. dasyclados* Wimm., *S. elaeagnos* Scop., *S. purpurea* L., and *S. x smithiana* Willd. (Bogatko, 1989, 1990).

Messina & Root (1980) reported two specimens collected by sweeping *Solidago* (Asteraceae). However, they rightly considered the association with this plant to be incidental. Proctor (1946) reported material reared from the trunks of larch [*Larix*] (Pinaceae), but this should not be considered a food plant association. Janes (1963) reported larvae dropping to soybean [*Glycine max* (L.) Merr.] (Fabaceae) prior to pupation, but he noted that there was no damage to this plant. *Plagiodera versicolora* has also been reported from mimosa [*Albizia* or *Mimosa*] (Fabaceae); *Oenothera* (Onagraceae); fir [*Abies*], spruce [*Picea*], white pine [*Pinus strobus* L.] (Pinaceae); and elm [*Ulmus*] (Ulmaceae) (Anonymous, 1961t, 1969g; Dearborn & Donahue, 1993; Dickerson & Weiss, 1920; Mathewson, 1968). These occurrences were likely either incidental or based on misidentification.

***Plagiometriona clavata* (Fabricius).** This species, including populations in Latin America, is associated with Solanaceae, having been reported from chili pepper [*Capsicum*], *Datura meteloides* Dunal, *D. stramonium* L., *Lycopersicon esculentum* Mill., *Physalis wrightii* A. Gray [*P. acutifolia* (Miers) Sandwith], *P. alkekengi* L., *P. cordata* Mill., “*Physalis cornuta*,” *P. fendleri* A. Gray, *P. heterophylla* Nees, *P. longifolia* Nutt., *Solanum americanum* P. Mill., *S. carolinense* L., *S. douglasii* Dun., *S. dulcamara* L., *S. gracile* Link [*S. gracilius* Herter], *S. hazenii* Britton, *S. seaforthianum* Andrews, and *S. tuberosum* L. (Anonymous, 1958j; Bailey & Kok, 1978; Balsbaugh & Hays, 1972; Barber, 1916; Barrows, 1979; Beirne, 1971; Beutenmüller, 1890a; Blatchley, 1924a; Borowiec, 1999; Britton, 1918a; Buzzi, 1994; Clark, 2000; Cockerell, 1897, 1902; Douglass, 1929; Downie & Arnett, 1996; Durkin, 1957; Essig, 1958; Flowers & Janzen, 1997; Jaques, 1951; Kirk, 1969, 1970; Löding, 1945; Maes & Staines, 1991; Menusan, 1960; Müller & Hilker, 2003; Noguera, 1988; Patch, 1913; Peck & Thomas, 1998; Popenoe, 1877; Riley, 1870c, 1986a; Riley & Enns, 1979; Riley *et al.*, 2002; Sanderson, 1899; Smith, 1900, 1910a; Sutherland, 1968; Vencel & Morton, 1998b, 1999; Vencel *et al.*, 1999; Walsh & Riley, 1868c, 1869f; Weigel & Baumhofer, 1948; Wickham, 1897; Wilcox, 1954, 1979; Windsor *et al.*, 1992; Woodruff, 1975). In previously unpublished investigations conducted in southern Texas, we have collected adults of the subspecies *Plagiometriona c. testudinaria* (Boheman) from *Physalis cinerascens* var. *cinerascens* (Dun.) Hitchc.

Beyond Solanaceae, *Plagiometriona clavata* has also been recorded from *Asclepias syriaca* L. (Asclepiadaceae); morning glory [likely *Calystegia*, *Convolvulus*, or *Ipomoea*], sweet potato [*Ipomoea batatas* (L.) Lam.] (Convolvulaceae); *Cajanus* (Fabaceae); *Quercus* (Fagaceae); cotton [*Gossypium*] (Malvaceae); “ajonjolí” [*Sesamum indicum* L.] (Pedaliaceae); *Platanus occidentalis* L. (Platanaceae); *Coffea* (Rubiaceae); and *Tilia americana* L. (Tiliaceae) (Anonymous, 1985; Baker, 1972; Balsbaugh & Hays, 1972; Blatchley, 1910, 1924a; Dailey *et al.*, 1978; Dillon & Dillon, 1961; Domínguez & Carrillo, 1976; Downie & Arnett, 1996; Dozier, 1918, 1920; Maes & Staines, 1991; Rouse & Medvedev, 1972; Ulke, 1903; Weigel & Baumhofer, 1948; Wilcox, 1954, 1979; Woodruff, 1975). However, these occurrences were probably incidental.

Under experimental conditions, larvae of *P. clavata* have been reared on lettuce [*Lactuca*] (Asteraceae) (Vencel *et al.*, 1999). Even so, this plant is not a natural host.

***Plateumaris aurifera* (LeConte).** Hosts are reported to be *Carex*, *Eleocharis*, and *Scirpus* (Cyperaceae) (Askevold, 1991a; Downie & Arnett, 1996).

***Plateumaris balli* Askeveld.** True hosts are likely Cyperaceae, including *Carex*, while specimens labeled from *Rubus* (Rosaceae) probably represent adventitious occurrences (Askeveld, 1991a; Clark, 2000).

***Plateumaris diversa* (Schaeffer).** This species has been reported from *Carex* (Cyperaceae) (Askeveld, 1991a; Schaeffer, 1925a; Wilcox, 1979).

***Plateumaris dubia* (Schaeffer).** Askeveld (1991a) reported that hosts are *Carex*, *Eleocharis*, and probably *Scirpus* (Cyperaceae). He also mentioned material labeled from “*Smilacina et al.*” However, he discounted any association with *Smilacina* [*Maianthemum*] (Liliaceae), supposing “*et al.*” to include cyperaceous plants. Leech (1943) recorded the synonym *Donacia idola* Hatch from sedge [Cyperaceae] and grass [Poaceae].

***Plateumaris flavipes* (Kirby).** Hosts are apparently Cyperaceae, including *Carex*, *Eleocharis palustris* (L.) Roemer & J. A. Schultes, and *Scirpus americanus* Pers. (Askeveld, 1991a; Brigham, 1982; Hoffman, 1940a, 1940c; Lays, 2001).

This beetle species has also been reported from *Sagittaria* (Alismataceae); *Peltandra undulata* Raf., *Symplocarpus foetidus* (L.) W. Salisb. (Araceae); rush [*Juncus*] (Juncaceae); *Nuphar*, *Nymphaea* (Nymphaeaceae); reed [*Phragmites* or a similar genus] (Poaceae); *Caltha palustris* L. (Ranunculaceae); *Aronia arbutifolia* (L.) Pers. (Rosaceae); and *Typha latifolia* L. (Typhaceae) (Beutenmüller, 1890a; Blatchley, 1910; Brigham, 1982; Dillon & Dillon, 1961; Hoffman, 1940a, 1940c; Judd, 1961; Lays, 2001; Schaeffer, 1925a, 1928a; Wilcox, 1954, 1979). At least some of these records were probably based on incidental occurrences or misidentification.

***Plateumaris frosti* (Schaeffer).** Hosts are apparently Cyperaceae, including *Carex stricta* Lam. (Askeveld, 1991a; Clark, 2000; Schaeffer, 1925a; Wilcox, 1979). Askeveld (1991a) stated that associations with *Peltandra virginica* Raf. (Araceae) and *Caltha palustris* L. (Ranunculaceae) were probably adventitious.

***Plateumaris fulvipes* (Lacordaire).** This species has been associated with *Carex*, *Eleocharis*, and *Scirpus* (Cyperaceae) (Askeveld, 1991a; Clark, 2000). It has also been swept from vegetation that included grass [Poaceae] (Schaeffer, 1925a, 1928a), but sweeping records should not necessarily be interpreted as host associations.

***Plateumaris germari* (Mannerheim).** This species has been associated with *Carex rostrata* Stokes [*C. utriculata* Boott], *Eleocharis*, and *Scirpus* (Cyperaceae) (Askeveld, 1991a; Clark, 2000). It has also been reported from *Caltha palustris* L. (Ranunculaceae) (Carr, 1988; La Rivers, 1951; Schaeffer, 1925a; Wilcox, 1979).

***Plateumaris metallica* (Ahrens).** Hosts of this species are Cyperaceae, including *Carex stricta* Lam. and *Scirpus*, and possibly also Juncaceae, including *Juncus alpinus* Vill. (Askeveld, 1991a; Blatchley, 1924a; Brigham, 1982; Clark, 2000; Schaeffer, 1925a, 1928a; Wilcox, 1979).

Additionally, this beetle species has been reported from spiked maple [*Acer spicatum* Lam.] (Aceraceae), *Sagittaria* (Alismataceae), *Symplocarpus foetidus* (L.) W. Salisb. (Araceae), *Ranunculus acris* L. (Ranunculaceae), and *Sparganium* (Sparganiaceae) (Blatchley, 1910; Brigham, 1982; Dillon & Dillon, 1961; Schaeffer, 1925a, 1928a; Wilcox, 1979). However, Askeveld (1991a) stated that associations with skunk cabbage [*Lysichiton camtschatcense* (L.) Schott. or *Symplocarpus foetidus*] (Araceae), *Alnus rugosa* (Du Roi) Spreng. [*A. incana* ssp. *rugosa* (Du Roi) Clausen] (Betulaceae), *Potentilla simplex* Michx. (Rosaceae), and *Sparganium* (Sparganiaceae) were adventitious. Beutenmüller (1890a) indicated the host of the synonym *Donacia femorata* Kirby to be either *Nuphar* or *Nymphaea* (Nymphaeaceae), but this association was likely either incidental or based on misidentification. Schaeffer (1925a) reported material swept from grass [Poaceae], but sweeping records should not necessarily be interpreted as host associations.

***Plateumaris neomexicana* (Schaeffer).** Askeveld (1991a) indicated that hosts are *Carex* and probably also other Cyperaceae, such as *Scirpus*. He also recorded material labeled from *Angelica genuflexa* Nutt. ex Torr. & A. Gray (Apiaceae), but he supposed this association to be adventitious. This beetle species has also been reported from reed [*Phragmites* or similar genus] (Poaceae) (Hatch, 1971), but this occurrence may also have been adventitious.

***Plateumaris nitida* (Germar).** This species is associated with Cyperaceae, having been recorded from *Carex stricta* Lam., *Eleocharis*, *Scirpus*, and “*Carex microcarpus* Pers.” [presumably *Scirpus microcarpus* J. Presl & C. Presl] (Andrews, 1923; Askeveld, 1991a; Blatchley, 1910; Carr, 1988; Dillon & Dillon, 1961; Lays, 2001).

This beetle species has also been recorded from *Acer spicatum* Lam. (Aceraceae); *Arum* [*Calla*, *Colocasia*, *Peltandra*, or a similar genus], *Lysichiton americanus* Hulten & St. John, *L. camtschatcense* (L.) Schott., arrow arum [*Peltandra virginica* Raf.] (Araceae); *Barbarea vulgaris* R. Br., wild mustard [*Brassica* or a similar genus] (Brassicaceae); *Viburnum trilobum* Marshall (Caprifoliaceae); *Cornus stolonifera* Michx. [*C. sericea* L.] (Cornaceae); *Iris missouriensis* Nutt. (Iridaceae); *Juncus* (Juncaceae); *Maianthemum stellatum* (L.) Link, *Veratrum californicum* E. Durand (Liliaceae); pond lily flowers [likely *Nuphar* or *Nymphaea*] (Nymphaeaceae); fir [*Abies*], *Picea mariana* (P. Mill.) B.S.P., *Pinus ponderosa* Dougl. ex Lawson & C. Lawson

(Pinaceae); *Eriogonum* (Polygonaceae); *Caltha palustris* L., *Ranunculus* (Ranunculaceae); *Salix* (Salicaceae); *Sparganium androcladum* (Engelm.) Morong (Sparganiaceae); and “Mayola flowers” (Askevold, 1990b, 1991a; Carr, 1988; Dearborn & Donahue, 1993; Dillon & Dillon, 1961; Kirk & Balsbaugh, 1975; Lays, 2001; MacGillivray, 1903; Proctor, 1938, 1946; Schaeffer, 1925a; Wilcox, 1979; Woodruff, 1913). However, at least some of these occurrences were probably incidental. Boiteau (1983a) included the synonym *Donacia emarginata* Kirby in a list of insects collected from potato fields [*Solanum tuberosum* L.] (Solanaceae), but this should not be interpreted as a host association.

***Plateumaris pusilla* (Say).** This species has been recorded from *Carex stricta* Lam., *Eleocharis palustris* (L.) Roemer & J. A. Schultes, *Scirpus* (Cyperaceae); and *Juncus* (Juncaceae) (Askevold, 1991a; Carr, 1988; Clark, 2000; La Rivers, 1951; Lays, 2001; Schaeffer, 1925a, 1928a; Wilcox, 1979).

This beetle species has also been reported from *Acer spicatum* Lam. (Aceraceae); *Solidago* (Asteraceae); *Alnus* (Betulaceae); *Lepidium* (Brassicaceae); *Cornus* (Cornaceae); *Dulichium arundinaceum* (L.) Britt. (Cyperaceae); *Rhododendron canescens* (Michx.) Sweet (Ericaceae); *Mentha* (Lamiaceae); blue camas [*Camassia*] (Liliaceae); spruce [*Picea*], “*Abies contorta* Dougl.” [presumably *Pinus contorta* Dougl. ex Loudon] (Pinaceae); *Agropyron cristatum* (L.) P. Gaertn., *Poa* (Poaceae); *Rumex* (Polygonaceae); buttercup [*Ranunculus*] (Ranunculaceae); *Potentilla simplex* Michx. (Rosaceae); *Salix* (Salicaceae); and *Sparganium* (Sparganiaceae) (Askevold, 1991a; Carr, 1988; Dearborn & Donahue, 1993; La Rivers, 1951; Lays, 2001; Schaeffer, 1925a, 1928a; Wilcox, 1979). However, these occurrences were probably incidental.

***Plateumaris robusta* (Schaeffer).** Askevold (1991a) reported that hosts are *Carex*, *Eleocharis*, and *Scirpus* (Cyperaceae). He further indicated that an association, based on a single specimen, with *Sparganium* (Sparganiaceae) was probably adventitious.

***Plateumaris rufa* (Say).** This species, sometimes cited as the synonyms *Donacia jucunda* LeConte and *D. sulcicollis* Lacordaire, has been reported from *Acer saccharinum* L. (Aceraceae); *Lysichiton americanus* Hulten & St. John (Araceae); *Symplocarpus foetidus* (L.) W. Salisb. (Araceae); *Carex stricta* Lam., *Scirpus* (Cyperaceae); *Nymphaea odorata* Ait. (Nymphaeaceae); fir [*Abies*], larch [*Larix*], spruce [*Picea*] (Pinaceae); grass [Poaceae]; *Caltha palustris* L., *Ranunculus acris* L. (Ranunculaceae); *Prunus* (Rosaceae); and potato [*Solanum tuberosum* L.] (Solanaceae) (Askevold, 1991a; Bayer & Brockmann, 1975; Boiteau, 1983a; Carr, 1988; Dearborn & Donahue, 1993; Hamilton, 1895; Judd, 1949, 1961; Lays, 2001; Schaeffer, 1925a, 1928a; Wilcox, 1954, 1979). Askevold (1991a) indicated probable hosts are species of Cyperaceae. At least most of the other reported associations were probably adventitious.

Beyond the above-mentioned reports, “*Donacia rufa* Say” has been reported from *Sagittaria latifolia* Willd. (Alismataceae); skunk cabbage [*Lysichiton camtschatcense* (L.) Schott. or *Symplocarpus foetidus*], *Peltandra virginica* Raf. (Araceae); and *Iris versicolor* L. (Iridaceae) (Balsbaugh & Hays, 1972; Blatchley, 1910; Borowiec, 1984; Brigham, 1982; Dillon & Dillon, 1961; Johnson, 1916; Lovell, 1915; Marx, 1957; Schaeffer, 1925a, 1928a; Wilcox, 1979). However, these associations may have been based on *D. tuberculata* Lacordaire, the two beetle species frequently being confused prior to the taxonomic treatment of Askevold (1991b).

***Plateumaris schaefferi* Askevold.** Askevold (1991a) reported that the natural history is unknown, but host plants are probably typical of other members of the genus. Most *Plateumaris* are associated with Cyperaceae.

***Plateumaris shoemakeri* (Schaeffer).** Although this species may sometimes use *Carex* and *Scirpus* (Cyperaceae), the normal host is reported to be *Acorus calamus* L. [*A. americanus* (Raf.) Raf.] (Araceae) (Askevold, 1990b, 1991a; Downie & Arnett, 1996; Lays, 2001). Beyond this, the synonym *Plateumaris flavipes lodingi* (Schaeffer) has been recorded from *Peltandra* (Araceae) (Balsbaugh & Hays, 1972). In previously unpublished investigations, we have collected a series of *P. shoemakeri* in New Jersey from *Peltandra virginica* Raf.

Additionally, *P. shoemakeri* has been swept from *Sagittaria* (Alismataceae) and grass [Poaceae] that were growing together (Schaeffer, 1925a), but sweeping records should not necessarily be interpreted as host associations. Wilcox (1979) listed this beetle species from *Sagittaria* and Poaceae (genus not specified), but this may have been based on the previously published sweeping record. Dearborn & Donahue (1993) reported *P. shoemakeri* from fir [*Abies*] (Pinaceae), but this occurrence was probably adventitious.

***Poecilocera harrisii* (LeConte).** This species has been recorded in association with *Carex* (Cyperaceae) and grass [Poaceae] (Askevold, 1990a; Brigham, 1982; Downie & Arnett, 1996; Riley *et al.*, 2002; Schaeffer, 1925a, 1928a; Wilcox, 1979). *Scirpus* (Cyperaceae) may possibly also be a host (Askevold, 1990a; Riley *et al.*, 2002).

***Polychalca punctatissima* (Wolf).** The synonym *Desmonota variolosa* Weber has been recorded, although doubtfully, from sweet potato [*Ipomoea batatas* (L.) Lam.] (Convolvulaceae) in Mississippi (Dozier, 1922). However, this species likely never occurred in the United States and almost certainly does not now.

***Prasocuris boreela* (Schaeffer).** This species is reported to occur on *Caltha palustris* L. (Ranunculaceae) (Downie & Arnett, 1996; Hatch, 1971; Schaeffer, 1934). In previously unpublished field work, we have collected a large series in Montana from *Ranunculus gmelinii* DC. (Ranunculaceae). Beyond this, Russell (1968) recorded *P. boreela* from sedges [Cyperaceae], but these plants are probably not true hosts.

***Prasocuris obliquata* LeConte.** This species has been associated with *Ranunculus gmelinii* DC. (Ranunculaceae) (Clark, 2000).

***Prasocuris ovalis* Blatchley.** This species is reported to occur on *Ranunculus* (Ranunculaceae) (Carr, 1920). It has also been recorded from *Carex* (Cyperaceae) (Blatchley, 1910; Clark, 2000; Downie & Arnett, 1996), but this occurrence was probably incidental.

***Prasocuris phellandrii* (Linnaeus).** This species, including Palearctic populations, has been reported in association with *Cicuta virosa* L., *Oenanthe aquatica* (L.) Poir., *Phellandrium aquaticum* L., *Sium suave* Walt. (Apiaceae); and *Caltha palustris* L. (Ranunculaceae) (Arnett, 1962; Bayer & Brockmann, 1975; Beller & Hatch, 1932; Beutenmüller, 1890a; Blatchley, 1910; Chagnon, 1938; Chagnon & Robert, 1962; Clark, 2000; Cox, 1982; Downie & Arnett, 1996; Fabricius, 1792, 1801; Hatch, 1971; Jolivet, 2003; Judd, 1964; Kippenberg & Döberl, 1994; Linnaeus, 1758; Müller, 1764; Paterson, 1931; Riley *et al.*, 2002; Steinhausen, 1996; Vig, 1996; Wilcox, 1954, 1972, 1979). Additionally, Russell (1968) recorded material from *Potamogeton* (Potamogetonaceae), but this plant is likely not a normal host. This beetle species has also been reported from under *Opuntia rafinesquii* Englem. (Cactaceae) (Blatchley, 1910), but this occurrence was almost certainly incidental.

***Prasocuris vittata* (Olivier).** These beetles have been associated with *Ranunculus* (Ranunculaceae), with specific records from *R. acris* L. and plants that were thought to probably be *R. repens* L. (Anonymous, 1977b; Balsbaugh & Hays, 1972; Beutenmüller, 1890a; Brigham, 1982; Carr, 1920; Chagnon, 1938; Chagnon & Robert, 1962; Wilcox, 1972, 1979). Walsh (1866b) reported the synonym *P. varipes* LeConte from *Rhododendron nudiflorum* (L.) Torr. (Ericaceae), and he reported *Tricholochmaea rufosanguinea* (Say) from *Ranunculus acris*. However, this was almost certainly an error, the hosts of the two beetle species being switched.

In other reports, *P. vittata* has been reported from *Cirsium arvense* (L.) Scop. (Asteraceae), rush [*Juncus*] (Juncaceae), fir [*Abies*] (Pinaceae), and *Rumex* (Polygonaceae) (Dearborn & Donahue, 1993; Maw, 1976a; Peck & Thomas, 1998; Proctor, 1946). However, these occurrences were likely adventitious.

***Promecosoma inflatum* Lefèvre.** This species has been collected by beating the parasitic plant *Phoradendron coryae* Trel. (Viscaceae) that was growing on *Quercus* (Fagaceae) (Riley *et al.*, 2001).

***Pseudochlamys semirufescens* Karren.** This species has been recorded from *Mimosa* (Fabaceae) (Riley *et al.*, 2002). Beyond this, two specimens have been collected by sweeping grass [Poaceae] together with mesquite [*Prosopis*] (Fabaceae) (Karren, 1972). However, sweeping records, without further evidence, should not generally be interpreted as host associations.

***Pseudodibolia opima* (LeConte).** This species feeds on *Ruellia caroliniensis* (Walt.) Steud. (Acanthaceae) (Clark, 2000; Flowers *et al.*, 1994; Peck & Thomas, 1998; Riley *et al.*, 2002). Specimens have also been labeled, “Chinchbug survey in *Andropogon*” (Riley & Enns, 1979). However, it is doubtful that *Andropogon* (Poaceae) is a food plant.

***Pseudolampsis guttata* (LeConte).** This species feeds on *Azolla caroliniana* Willd. and *A. filiculoides* Lamarck (Azollaceae) (Buckingham & Buckingham, 1981; Casari & Duckett, 1998; Habeck, 1979; Hill & Oberholzer, 2002; Hoffman, 1997; Jolivet, 2003; Jolivet & Hawkeswood, 1995; Jolivet & Verma, 2002; Peck & Thomas, 1998). Under experimental conditions, beetles have also fed on *A. pinnata* R. Br. [*A. africana* Desv.] and *A. nilotica* DeCassine *ex* Mett., as well as on *Salvinia hastata* Desv. (Salviniaceae) (Hill & Oberholzer, 2002).

A specimen of *P. guttata* has also been collected by sweeping *Salix* (Salicaceae) (Riley & Enns, 1979). However, sweeping records, in the absence of further evidence, should not be interpreted as host associations.

***Pseudoluperus cyanellus* (Horn).** In a previously unpublished observation, beetles in Arizona were found to be numerous on blooming *Acacia constricta* Benth. *ex* A. Gray (Fabaceae). The beetles were identified as *P. cyanellus* in the sense of Wilcox (1965). However, forthcoming investigation may prove that true *P. cyanellus* is limited to the Baja California peninsula and that Arizona populations represent an as yet undescribed species.

***Pseudoluperus longulus* (LeConte).** This species has been reported from *Cymopterus terebinthinus* (Hooker) Torr. & A. Gray, *Heracleum lanatum* Michx., *Pteryxia terebinthina* (Hook.) J. M. Coult. & Rose (Apiaceae); *Achillea millifolium* L., *Artemisia tridentata* Nutt., *Balsamorhiza hirsuta* Nutt., *B. sagittata* (Pursh) Nutt., *Chaenactis*, *Cirsium canescens* Nutt., *Crepis acuminata* Nutt., *Senecio* (Asteraceae); *Thelypodium sagittatum* (Nutt.) Endl. (Brassicaceae); *Opuntia* (Cactaceae); *Lupinus caudatus* Kell., *Melilotus officinalis* (L.) Pall. (Fabaceae); *Geranium* (Geraniaceae); *Syringa* (Oleaceae); *Oenothera* (Onagraceae); *Agropyron cristatum* (L.) P. Gaertn. (Poaceae); *Eriogonum* (Polygonaceae); *Purshia tridentata* (Pursh) DC.,

Rosa (Rosaceae); and *Populus tremuloides* Michx. (Salicaceae) (Clark, 1987; Horning & Barr, 1970). Some of these associations involved flowers rather than foliage, and some may have been purely incidental. In previously unpublished investigations in southeastern New Mexico, we have collected adults of this beetle species from blooming *Linanthus nuttallii* ssp. *nuttallii* (Gray) Green ex Milliken (Polemoniaceae).

***Pseudoluperus maculicollis* (LeConte).** This species has been collected from *Encelia californica* Nutt. (Asteraceae); *Yucca mohaviensis* Sarg., *Y. whipplei* J. Torrey (Agavaceae); and *Penstemon antirrhinoides* Benth. (Scrophulariaceae) (Clark, 1987). Additionally, in previously unpublished investigations, we have seen specimens labeled from California in association with *Rosa minutifolia* Engelm. (Rosaceae).

***Pseudoluperus tuberculatus* (Blake).** In previously unpublished observations, we have associated beetles in California with *Adenostoma fasciculatum* Hook. & Arn. (Rosaceae).

***Psylliodes affinis* (Paykull).** This species, including Old World populations, has been reported from *Humulus lupulus* L. (Cannabaceae); rhubarb [*Rheum rhabarbarum* L.] (Polygonaceae); *Atropa belladonna* L., *Hyoscyamus niger* L., *Lycium halimifolium* P. Mill. [*L. barbarum* L.], *Lycopersicon esculentum* Mill., *Nicotiana tabacum* L., *Scopolia carniolica* Jacq., *Solanum americanum* P. Mill., *S. dulcamara* L., *S. nigrum* L., and *S. tuberosum* L. (Solanaceae) (Abdullah & Qureshi, 1969; Anonymous, 1968r; Bastazo *et al.*, 1993; Biondi, 1993; Cavey, 1994; Clark, 2000; Doguet, 1994; Downie & Arnett, 1996; Flowers & Wilcox, 1968; Hoebeke, 1980b; Hoebeke & Wheeler, 1983; Jolivet & Hawkeswood, 1995; Lopatin, 1984; Mohr, 1966; Newton, 1929; Papp, 1984; Petitpierre, 1999; Steinhausen, 1996; Swan & Papp, 1972; Verdyck & De Bruyn, 1991; Vig, 1992b; Wheeler, 1992; Wheeler & Hoebeke, 1983; Wilcox, 1969, 1979). Normal hosts are Solanaceae, with *Solanum dulcamara* being an especially preferred food plant.

This beetle species has also been intercepted in shipments of dahlia [*Dahlia*] (Asteraceae) and rose [*Rosa*] (Rosaceae) (Anonymous, 1968r; Wheeler & Hoebeke, 1983). However, these plants are probably not hosts.

***Psylliodes chalconeris* (Illiger).** This Old World species has been introduced into North America as a biological control agent against *Carduus nutans* L. (Asteraceae) (Clark, 2000; De Quattro, 1997). In the Eastern Hemisphere, it has been reported from *Carduus acanthoides* L., *C. crispus* L., *C. nutans*, *C. pycnocephalus* L., *Centaurea solstitialis* L., *Cirsium*, *Galactites tomentosa* Moench., *Onopordum illyricum* L., *Picnomon acarna* (L.) Cass., and *Silybum marianum* (L.) Gaertn. (Asteraceae) (Batra *et al.*, 1981; Campobasso *et al.*, 1999; Doguet, 1994; Dunn & Campobasso, 1993; Dunn & Rizza, 1976, 1977; Goeden, 1974, 1976; Jolivet, 2001; Lopatin, 1984; Mohr, 1966; Petitpierre, 1999; Petitpierre *et al.*, 2000; Steinhausen, 1996; White, 1996b).

Under experimental conditions, *P. chalconeris* at least nibbled on *Amberboa moschata* (L.) DC., *Carthamus tinctorius* L., *Centaurea cineraria* L., *C. cyanus* L., *C. jacea* L., *C. montana* L., *Cichorium endivia* L., *Cirsium arvense* (L.) Scop., *C. flodmanii* (Rydb.) Arthur, *C. monspessulanum* Hill, *C. undulatum* (Nutt.) Spreng., *C. vulgare* (Savi) Tenn., *Cnicus spinosissimus* L., *Cynara cardunculus* L., *C. scolymus* L., *Helianthus annuus* L., *Lactuca sativa* L., *Senecio erucifolius* L. (Asteraceae); *Beta vulgaris* L. (Chenopodiaceae); and *Ocimum basilicum* L. (Lamiaceae) (Batra *et al.*, 1981; Dunn & Campobasso, 1993; Dunn & Rizza, 1977). However, all of these abnormal food plants were demonstrated to be inferior hosts in comparison to *Carduus nutans*, at least when considering the fewer number of eggs that were oviposited by females feeding upon them.

***Psylliodes chrysocephalus* (Linnaeus).** This species, including Old World populations, has been reported from *Amaranthus caudatus* L., *A. retroflexus* L. (Amaranthaceae); *Carduus* (Asteraceae); *Barbarea minor* C. Koch, *Brassica napus* L., *B. nigra* (L.) W. D. J. Koch, *B. oleracea* L., *B. rapa* L., *B. tournefortii* Gouan, *Capsella bursa-pastoris* (L.) Medik., *Diplotaxis auriculata* Dur., *D. erucoides* (L.) DC., *Erucaria boveana* Cosson, *E. hispanica* (L.) Druce, *Erucastrum elatum* O. E. Schulz, *Erysimum crassipes* Fisch. & Mey., *E. cuspidatum* (Bieb.) DC., *E. goniocaulon* Boiss., *E. verrucosum* Boiss. & Gaill., *Hirschfeldia incana* (L.) Lagr.-Fossat, *Isatis lucitanica* L., *Matthiola incana* (L.) R. Br., *Raphanus raphanistrum* L., *R. rostratus* DC., *R. sativus* L., *Rapistrum perenne* (L.) All., *R. rugosum* (L.) All., *Sinapis alba* L., *S. arvensis* L., *S. pubescens* L., *Sisymbrium officinale* (L.) Scop., *Thlaspi arvense* L. (Brassicaceae); sugar beet [*Beta vulgaris* L.] (Chenopodiaceae); vetch [likely *Coronilla* or *Vicia*], *Glycine max* (L.) Merr. (Fabaceae); *Quercus* (Fagaceae); *Linum usitatissimum* L. (Linaceae); *Bromus* (Poaceae); *Thalictrum minus* L. (Ranunculaceae); and *Vitis vinifera* L. (Vitaceae) (Abdullah & Qureshi, 1969; Anonymous, 1958m; Bartlet & Williams, 1991; Bastazo *et al.*, 1993; Beirne, 1971; Biondi, 1990; Brown, 1967; Cagán *et al.*, 2000; Chittenden, 1909a; Doguet, 1994; Downie & Arnett, 1996; Furth, 1984; Lamb, 1989; MacGregor & Gutiérrez, 1983; Mohr, 1966; Newton, 1929; Petitpierre, 1999; Petitpierre *et al.*, 2000; Steinhausen, 1996; Vig, 1992b, 1997; Wilcox, 1979). Species of Brassicaceae are normal hosts.

In laboratory experiments, *P. chrysocephalus* has fed on several of the plants mentioned above and also on *Alliaria petiolata* (Bieb.) Cavara & Grande, *Eruca vesicaria* (L.) Cav., *Hesperis matronalis* L., *Isatis*

tinctoria L., *Lepidium sativum* L., *Nasturtium officinale* R. Br. [*Rorippa nasturtium-aquaticum* (L.) Hayek.] (Brassicaceae); *Reseda alba* L. (Resedaceae); and *Tropaeolum majus* L. (Tropaeolaceae) (Bartlett & Williams, 1991).

***Psylliodes convexior* LeConte.** This species has been associated with Brassicaceae, including *Barbarea vulgaris* R. Br., *Brassica rapa* L., mustard [*Brassica* or a similar genus], *Capsella bursa-pastoris* (L.) Medik., *Lepidium virginicum* L., and radish [*Raphanus sativus* L.] (Blatchley, 1924a; Carr, 1988; Chittenden, 1909a; Douglass, 1929; Duckett, 1920; Flowers *et al.*, 1994; Fullerton, 1960; Gentner, 1926a; Peck & Thomas, 1998; Riley & Enns, 1979; Root & Tahvanainen, 1969; Rouse & Medvedev, 1972; Stirrett, 1924). In previously unpublished investigations in Texas, we have collected adults from *Descurainia pinnata* (Walt.) Britt. and *Dimorphocarpa wislizenii* (Engelm.) Rollins.

This beetle species has also been reported from *Asclepias syriaca* L. (Asclepiadaceae); *Lactuca sativa* L. (Asteraceae); *Humulus lupulus* L. (Cannabaceae); *Beta vulgaris* L., *Chenopodium album* L. (Chenopodiaceae); sedge [Cyperaceae]; buttonclover [*Medicago orbicularis* (L.) All.] (Fabaceae); *Pinus ponderosa* Dougl. ex Lawson & C. Lawson (Pinaceae); *Echinochloa crus-galli* (L.) Beauv., wheat [*Triticum*], and *Zea mays* L. (Poaceae) (Blatchley, 1910; Brisley, 1925; Bruner, 1891a, 1891b; Hawley, 1918; Carr, 1988; Dailey *et al.*, 1978; Douglass, 1929; Forbes, 1905; Flowers *et al.*, 1994; Forbes & Hart, 1900; Kirk, 1970; Neiswander, 1931; Stirrett, 1924; Webster, 1888). However, these plants are probably not preferred hosts.

***Psylliodes credens* Fall.** In previously unpublished field work, we have collected an adult in California from *Salicornia* (Chenopodiaceae).

***Psylliodes cucullatus* (Illiger).** This species, including Old World populations, is apparently associated with Poaceae, having been recorded from *Agropyron cristatum* (L.) P. Gaertn., *A. desertorum* (F. E. L. Fischer ex Link) Schult., *Eremopyrum cristatum* (L.) Willk. & Lange, *Festuca ovina* L., and *Poa pratensis* L. (Brown, 1967; Doguet, 1994; Furth, 1984; Wilcox, 1979). It has also been reported from *Spergula arvensis* L. (Caryophyllaceae) (Brown, 1946; Cox, 1995; Downie & Arnett, 1996; Doguet, 1994; Furth, 1984; Mohr, 1966; Wilcox, 1979). However, this association may have been in error (Brown, 1967).

***Psylliodes elegans* Horn.** This species is normally associated with Brassicaceae, having been recorded from *Brassica napus* L., *Cakile lanceolata* (Willd.) O. E. Schulz, and *Lepidium virginicum* L. (Blatchley, 1924a; Flowers *et al.*, 1994; Peck & Thomas, 1998; Wilcox, 1979). Additionally, it has been reported from oats [*Avena*] (Poaceae) and *Rumex acetosella* L. (Polygonaceae) (Blatchley, 1924a; Dozier, 1918; Flowers *et al.*, 1994), but these occurrences were likely adventitious. Beetles have also been swept from grass [Poaceae] (Dozier, 1918), but sweeping records should not necessarily be interpreted as host associations.

***Psylliodes napi* (Fabricius).** In the Old World, this species has been reported from *Alliaria petiolata* (Bieb.) Cavara & Grande, *Barbarea vulgaris* R. Br., *Brassica oleracea* L., “le Navet” [*B. rapa* L.], *Cardamine amara* L., *C. impatiens* L., *Crambe maritima* L., *Lunaria rediviva* L., *Nasturtium officinale* R. Br. [*Rorippa nasturtium-aquaticum* (L.) Hayek.], *Sinapis pubescens* L. (Brassicaceae); *Euphorbia esula* L. (Euphorbiaceae); vetch [likely *Coronilla* or *Vicia*] and pea [likely *Pisum sativum* L.] (Fabaceae) (Abdullah & Qureshi, 1969; Bastazo *et al.*, 1993; Campobasso *et al.*, 1999; Cox, 1981; Doguet, 1994; Mohr, 1966; Petitpierre, 1999; Tahvanainen, 1972; Vig & Rozner, 1996). In all likelihood, only the brassicaceous plants are normal food plants.

In North America, this beetle species has been associated with *Barbarea vulgaris*, *Brassica nigra* (L.) W. D. J. Koch, *B. oleracea*, *Cardamine diphylla* (Michx.) Wood, *Erysimum cheiranthoides* L., and *Lepidium campestre* (L.) R. Br. (Brassicaceae) (Clark, 2000; Hicks & Tahvanainen, 1974; Hoebeke & Wheeler, 1983; Messina & Root, 1980; Strauss, 1988; Tahvanainen, 1972, 1983; Tahvanainen & Root, 1970; Wilcox, 1979). Additionally, Messina & Root (1980) reported a specimen collected by sweeping *Solidago* (Asteraceae), but they rightly considered this association to be incidental. Boiteau (1983a) included *P. napi* in a list of insects collected from potato fields [*Solanum tuberosum* L.] (Solanaceae), but this should not be interpreted as a host association.

***Psylliodes picinus* (Marshall).** This species, including Old World populations, has been reported from *Cirsium palustre* (L.) Scop. (Asteraceae); *Betula*, *Corylus avellana* L. (Betulaceae); *Quercus* (Fagaceae); *Lythrum salicaria* L. (Lythraceae); barley [*Hordeum*], *Phragmites australis* (Cav.) Trin. ex Steud., *Zea mays* L. (Poaceae); *Lysimachia vulgaris* L. (Primulaceae); *Salix alba* L. (Salicaceae); and *Ulmus* (Ulmaceae) (Abdullah & Qureshi, 1969; Batra *et al.*, 1986; Doguet, 1994; Hoebeke & Wheeler, 1983; Mohr, 1966; Mölleken & Topp, 1997; Petitpierre, 1999; White, 1979c).

***Psylliodes punctulatus* Melsheimer.** This species is frequently associated with Brassicaceae, having been recorded from *Barbarea vulgaris* R. Br., *Brassica juncea* (L.) Czern., *B. napus* L., *B. nigra* (L.) W. D. J. Koch, *B. oleracea* L., *B. rapa* L., *Cardamine diphylla* (Michx.) Wood, *Descurainia sophia* (L.) Webb in Engler & Prantl, *Erysimum cheiranthoides* L., *E. repandum* L., *Lepidium campestre* (L.) R. Br., *L. densiflorum* Schrad., *L. ramosissimum* A. Nels., *Norta altissima* (L.) Britton, *Raphanus sativus* L., watercress [*Rorippa*

nasturtium-aquaticum (L.) Hayek.], and hedge mustard [*Sisymbrium officinale* (L.) Scop.] (Abdullah & Qureshi, 1969; Beirne, 1971; Beller & Hatch, 1932; Burgess, 1977, 1981a, 1981c, 1982b; Carr, 1988; Chittenden, 1909a; Crosby & Leonard, 1918; Dorst, 1938; Duckett, 1910; Essig, 1913, 1915b, 1958; Forbes & Hart, 1900; Frost, 1949; Gibson, 1913; Hatch, 1971; Hicks & Tahvanainen, 1974; Knowlton, 1939; Knowlton & Smith, 1935; Parker, 1910; Pimentel, 1961; Piper, 1895; Quayle, 1908c; Root, 1973; Root & Tahvanainen, 1969; Shropshire & Kadow, 1936; Smith *et al.*, 1980; Stirrett, 1924; Tahvanainen, 1972; Turnock *et al.*, 1987; Vincent & Stewart, 1981; Westdal & Romanow, 1972; Wilcox, 1979; Wylie, 1979). In previously unpublished field work, we have collected an adult of *P. punctulatus* from *Euclidium syriacum* (L.) R. Br. (Brassicaceae) in Colorado.

This beetle species has also been reported in association with tumbleweed [*Amaranthus albus* L.], *Amaranthus graecizans* L., *A. retroflexus* L. (Amaranthaceae); *Asclepias syriaca* L. (Asclepiadaceae); *Carduus nutans* L., *Cirsium arvense* (L.) Scop., *Gutierrezia sarothrae* (Pursh) N. L. Britt. & Rusby (Asteraceae); *Sophia* (Bombacaceae); *Lappula echinata* Gilib. [*L. squarrosa* (Retz) Dumort.] (Boraginaceae); *Cannabis sativa* L., *Humulus lupulus* L. (Cannabaceae); *Stellaria* (Caryophyllaceae); *Beta vulgaris* L., *Chenopodium album* L., *C. murale* L., *Kochia prostrata* (L.) C. Schrad., Russian thistle [*Salsola*], spinach [*Spinacia oleracea* L.] (Chenopodiaceae); bindweed [likely *Calystegia*, *Convolvulus*, or *Ipomoea*] (Convolvulaceae); *Citrullus lanatus* (Thunb.) Matsum. & Nakai, *Cucumis sativus* L., *Cucurbita pepo* L. (Cucurbitaceae); lespe-deza [*Lespedeza*], *Medicago sativa* L., *Trifolium hybridum* L., *T. incarnatum* L., *T. pratense* L., *T. repens* L. (Fabaceae); fir [*Abies*] (Pinaceae); *Bromus secalinus* L., corn [*Zea mays* L.] (Poaceae); *Polygonum convolvulus* L., *Rheum officinale* Baill., rhubarb [*R. rhabarbarum* L.], *R. rhaponticum* L., *Rumex acetosella* L., *R. obtusifolius* L. (Polygonaceae); strawberry [*Fragaria*] (Rosaceae); *Lycopersicon esculentum* Mill., tobacco [*Nicotiana*], *Solanum tuberosum* L. (Solanaceae); *Urtica dioica* L., *U. urens* L. (Urticaceae); and “murole” (Abdullah & Qureshi, 1969; Anonymous, 1975a; Balsbaugh & Hays, 1972; Balsbaugh *et al.*, 1967; Batra *et al.*, 1981; Beirne, 1971; Beller & Hatch, 1932; Blatchley, 1910; Boiteau, 1983a; Burgess, 1977, 1981a; Carr, 1988; Chittenden, 1897b, 1909a, 1912b; Crosby & Leonard, 1918; Dailey *et al.*, 1978; Dearborn & Donahue, 1993; Dillon & Dillon, 1961; Dorst, 1938; Downie & Arnett, 1996; Duckett, 1920; Essig, 1913, 1915b, 1958; Essig & Hoskins, 1944; Forbes, 1905; Forbes & Hart, 1900; Gibson, 1913; Glendenning, 1927; Hatch, 1971; Hawley, 1918; Horne & Essig, 1921; Jaques, 1951; Johnson, 1927; Kirk, 1970; Knowlton, 1939, 1958b, 1963a, 1963b; Knowlton & Finch, 1963, 1964; Knowlton & Smith, 1935; Knowlton & Taylor, 1952; Kumar *et al.*, 1976; Lago & Stanford, 1989; Lavigne, 1976; MacGregor & Gutiérrez, 1983; MacNay, 1956; Mohyuddin, 1969a; Moore *et al.*, 1982; Morrison *et al.*, 1967; Neiswander, 1931; Niemczyk & Guyer, 1963; Papp, 1984; Parker, 1910; Patch, 1913; Piper, 1895; Proctor, 1938, 1946; Quayle, 1908c; Root, 1973; Smith, 1900, 1910a, 1938; Stear, 1918; Stirrett, 1924, 1935; Swan & Papp, 1972; Tahvanainen, 1972; Westdal & Romanow, 1972; Wickham, 1902; Wilcox, 1979; Wylie, 1979). Although some of the non-brassicaceous associations are unusual, *P. punctulatus* is considered to be a major pest of *Humulus lupulus*. Bickenstaff & Huggans (1962) included this beetle species in a list of insects collected from soybean fields [*Glycine max* (L.) Merr.] (Fabaceae), but this should not necessary be interpreted as a host association.

As stated by Beirne (1971) some of the host associations reported for *P. punctulatus* may in actuality have been based on other beetle species. Beyond this, some of the non-brassicaceous occurrences were likely incidental.

***Psylliodes sublaevis* Horn.** Kirk (1970) reported this species “on sunflower heads or on nearby grass.” However, his observation was made in South Carolina, far outside of the generally recognized range of this western beetle species, and the associations with sunflower [*Helianthus*] (Asteraceae) and grass [Poaceae] were likely based on misidentified beetles.

***Psylliodes verisimilis* Fall.** Ward *et al.* (1977) listed this species “or near” from mesquite [*Prosopis*] (Fabaceae).

***Pteleon brevicornis* (Jacoby).** In previously unpublished investigations in Texas, we have collected a small series (eight adults) from flowers of *Psilostrophe gnaphalioides* DC. (Asteraceae). In California, we have collected adults from flowers of *Opuntia* (Cactaceae) and from *Sphaeralcea ambigua* A. Gray (Malvaceae). In Baja California, we have found adults on *Yucca* (Agavaceae), *Opuntia echinocarpa* Engelm. & Bigel. (Cactaceae), *Aeschynomene vigil* Brandegee (Fabaceae), *Sphaeralcea orcuttii* Rose (Malvaceae), and *Solanum elaeagnifolium* Cav. (Solanaceae).

***Pyrrhalta viburni* (Paykull).** Hosts are species of *Viburnum* (Caprifoliaceae), including *V. acerifolium* L., *V. dentatum* L., *V. dilatatum* Thunb., *V. lantana* L., *V. lentago* L., *V. opulus* L., *V. plicatum* Thunb., “*V. x pragensis*,” *V. prunifolium* L., *V. rafinesquianum* J. A. Schultes, *V. recognitum* Fernald, *V. tinus* L., *V. trilobum* Marshall, and *V. wrightii* Miq. (Abdullah & Qureshi, 1968; Anonymous, 1999a, 2000a, 2000b; Becker, 1979; Böving, 1929; Cox, 1994; Del Bene & Landi, 1993; Downie & Arnett, 1996; Goidanich, 1956; Hoebeke & Wheeler, 1983; Johnson & Lyon, 1991; Jolivet & Hawkeswood, 1995; Jolivet & Petitpierre, 1980; Lühmann,

1934; Mohr, 1966; Paterson, 1931; Riley *et al.*, 2002; Sheppard, 1955; Steinhausen, 1996; Weston, 2001; Weston & Desurmont, 2002; Weston & Hoebeke, 2003; Weston *et al.*, 1999, 2000, 2001, 2002; Wheeler & Hoebeke, 1994). Under experimental conditions, *P. viburni* has fed at least minimally on some of the plants mentioned above, and also on *V. carlesii* Hemsl., *V. x rhytidophylloides* J. Sur., and *V. sieboldii* Miq. (Weston & Desurmont, 2002).

In Europe, this beetle species has also been found on *Ribes* (Grossulariaceae) (Winkelman, 1992). However, this plant should not be regarded as a normal host.

***Rhabdopterus blatchleyi* Bowditch.** This species has been recorded from flowers of thistle [likely *Carduus* or *Cirsium*] (Asteraceae) (Blatchley, 1924a).

***Rhabdopterus bottimeri* Barber.** This species has been collected from honeysuckle [likely *Lonicera*] (Caprifoliaceae), sycamore [*Platanus occidentalis* L.] (Platanaceae), *Polygonum* (Polygonaceae), *Ceanothus* (Rhamnaceae), rose [*Rosa*] (Rosaceae), *Cephalanthus occidentalis* L. (Rubiaceae), willow [*Salix*] (Salicaceae), and *Camellia japonica* L. (Theaceae) (Barber, 1946b; Schultz, 1970, 1977). In addition to these records, Barber (1946a) reported a specimen that was intercepted in shipments of lettuce [*Lactuca*] (Asteraceae) from Mexico.

***Rhabdopterus bowditchi* Barber.** This species has been recorded from mango [*Mangifera indica* L.] (Anacardiaceae); avocado [*Persea americana* Mill.] (Lauraceae); pitanga [*Eugenia uniflora* L.], surinamcherry [*Eugenia uniflora*], jaboticaba [*Myrciaria*], cattleya guava [*Psidium cattleianum* Sabine] (Myrtaceae); *Ixora* (Rubiaceae); longan [*Dimocarpus longan* Lour.] and lychee [*Litchi chinensis* Sonn.] (Sapindaceae) (Anonymous, 1962g; Barber, 1943; Dowling & Palmer, 1961; Ebeling, 1959; Schultz, 1970, 1977; Woodruff, 1960).

***Rhabdopterus deceptor* Barber.** This species has been recorded from sweetclover [*Melilotus*], *Arachis* tree [*Vicia bithynica* (L.) L.] (Fabaceae); “*Quercus wirgajona*” (Fagaceae); *Callirhoe involucrata* (J. Torr. & A. Gray) A. Gray (Malvaceae); corn [*Zea mays* L.] (Poaceae); *Spiraea* (Rosaceae); *Populus deltoides* Marshall (Salicaceae); *Camellia* (Theaceae); elm [*Ulmus*] (Ulmaceae); and *Vitis* (Vitaceae) (Barber, 1943; Downie & Arnett, 1996; Kirk & Balsbaugh, 1975; Riley & Enns, 1979; Schultz, 1970, 1977; Wilcox, 1954). According to Barber (1943), the beetles that Jones (1941) reported as “*Rhabdopterus praetexta* (Say)” attacking grape [*Vitis*] were actually *R. deceptor*. Bickensstaff & Huggans (1962) included “*Rhabdopterus* sp. prob. *deceptor*” in a list of insects collected from soybean fields [*Glycine max* (L.) Merr.] (Fabaceae), but this should not necessarily be interpreted as a host association. In previously unpublished field work, we have found adults of *R. deceptor* feeding on foliage of *Ilex decidua* Walt. (Aquifoliaceae) and *Smilax* (Smilacaceae) in east-central Texas, and *Quercus* (Fagaceae) in Missouri.

***Rhabdopterus picipes* (Olivier).** This species has been reported from *Acer saccharinum* L. (Aceraceae); *Rhus glabra* L. (Anacardiaceae); *Ilex cornuta* Lindl. & Paxton, *I. crenata* Thunb., inkberry [*I. glabra* (L.) Gray], *I. vomitoria* Soland. in Ait. (Aquifoliaceae); maple-leaf arrowwood [*Viburnum acerifolium* L.], *Viburnum japonicum* (Thunb.) Spreng. (Caprifoliaceae); *Euonymus atropurpureus* Jacq. (Celastraceae); dogwood [*Cornus*] (Cornaceae); *Rhododendron*, *Vaccinium corymbosum* L., *V. macrocarpon* Ait. (Ericaceae); *Cercis canadensis* L. (Fabaceae); *Quercus falcata* Michx., *Q. marilandica* Muenchh., *Q. stellata* Wangenh. (Fagaceae); *Hamamelis virginiana* L. (Hamamelidaceae); *Philadelphus* (Hydrangeaceae); *Carya leiodermis* Sarg. [*C. glabra* var. *hirsuta* (Ashe) Ashe], *C. illinoensis* (Wang.) K. Koch (Juglandaceae); *Sassafras albidum* (Nutt.) Nees (Lauraceae); *Magnolia virginiana* L. (Magnoliaceae); cotton [*Gossypium*] (Malvaceae); *Myrica cerifera* L. (Myricaceae); *Platanus occidentalis* L. (Platanaceae); *Spartina michauxiana* Hitchcock [*S. pectinata* Bosc. ex Link] (Poaceae); dock [*Rumex*] (Polygonaceae); strawberry [*Fragaria*], apple [*Malus sylvestris* P. Mill.], *Photinia*, sweet cherry [*Prunus avium* (L.) L.], *P. caroliniana* Ait., sour cherry [*P. cerasus* L.], *P. laurocerasus* L., pin cherry [*P. pensylvanica* L. f.], wild black cherry [*P. serotina* Ehrh.], plum [*Prunus*], pear [*Pyrus*], *Rosa*, red raspberry [*Rubus idaeus* L.], blackberry [*Rubus*], *Spiraea alba* Du Roi (Rosaceae); *Koeleria formosana* Laxm., *K. paniculata* Laxm. (Sapindaceae); *Smilax* (Smilacaceae); *Symplocos tinctoria* (L.) L’Her. (Symplocaceae); *Camellia japonica* L., *C. sasanqua* Thunb. (Theaceae); *Tilia* (Tiliaceae); elm [*Ulmus*] (Ulmaceae); *Parthenocissus quinquefolia* (L.) Planch., *Vitis aestivalis* Michx., and *V. rotundifolia* Michx. (Vitaceae) (Barber, 1943; Blatchley, 1910; Burke *et al.*, 1974; Chagnon, 1917, 1938; Chagnon & Robert, 1962; Douglass, 1929; Driggers, 1927; Felt, 1907; Folsom, 1936b; Franklin, 1950; Hamilton, 1895; Harman, 1931; Hendrickson, 1931a; Horn, 1892; Johnson & Lyon, 1991; Jones, 1941; Lee, 1949; Levan *et al.*, 1963; MacNay & Creelman, 1958; Oliver & Chapin, 1980; Papp, 1984; Phipps, 1930; Quaintance, 1912; Robertson, 1896b; Sawyer, 1920; Scammell, 1915, 1917; Schultz, 1970, 1977; Smith, 1900, 1910a; Swan & Papp, 1972; Westcott, 1946; White & Hamilton, 1935; Wilcox, 1979). Unfortunately, some of these records predate modern taxonomic revision, and the identity of the beetles is therefore somewhat questionable.

Kirk (1969) reported *R. picipes* “in leaf of pitcher plant” [*Sarracenia*] (Sarraceniaceae), but, in this instance, the beetle was surely prey rather than an herbivore. Balsbaugh & Hays (1972) collected a specimen

by sweeping *Commelina communis* L. (Commelinaceae), but sweeping records should not necessarily be interpreted as host associations. Smith's (1928) statement that *R. picipes* is predaceous is clearly in error.

***Rhabdopterus praetextus* (Say).** This species has been recorded from *Cornus stolonifera* Michx. [*C. sericea* L.] (Cornaceae); soybean [*Glycine max* (L.) Merr.] (Fabaceae); cotton [*Gossypium*] (Malvaceae); "Fuschia" [likely *Fuchsia*] (Onagraceae); corn [*Zea mays* L.] (Poaceae); apple [*Malus sylvestris* P. Mill.] (Rosaceae); *Ampelopsis arborea* (L.) Koehne and *Vitis vulpina* L. (Vitaceae) (Blatchley, 1924a; Downie & Arnett, 1996; Paradis, 1959; Rouse & Medvedev, 1972; Schultz, 1970, 1977; Wilcox, 1954). Additionally, Webster (1881) included this beetle species in a list of chrysomelids collected from either *Salix discolor* Muhl. or *S. petiolaris* J. E. Sm. (Salicaceae). According to Barber (1943), the report of Jones (1941) of this beetle species in association with grape [*Vitis*] was based on misidentified specimens of *R. deceptor* Barber. In previously unpublished field work in southern Texas, we have found adults of *R. praetextus* feeding on foliage of *Smilax bona-nox* L. (Smilacaceae) and *Celtis* sp. (Ulmaceae).

***Saxinis deserticola* Moldenke.** Adults have been associated with *Acacia*, *Cercidium*, *Lupinus*, and *Prosopis* (Fabaceae) (Moldenke, 1970). This beetle species has also been reported from *Ceanothus* (Rhamnaceae) (Carr, 1988). In previously unpublished investigations, we have seen a specimen labeled from California in association with *Encelia farinosa* A. Gray (Asteraceae) and another labeled from California in association with *Ephedra californica* Wats. (Ephedraceae).

***Saxinis hornii* Fall.** This species has been reported from *Ceanothus* (Rhamnaceae) (Carr, 1988). In previously unpublished investigations, we have seen specimens labeled from Baja California in association with *Acacia* and *Prosopis juliflora* (Sw.) DC. [*P. glandulosa* J. Torr.] (Fabaceae).

***Saxinis knausii* Schaeffer.** This species has been reported from *Prosopis glandulosa* J. Torr. (Fabaceae) and *Ceanothus* (Rhamnaceae) (Arnett, 1985; Arnett & Jacques, 1981; Smith & Ueckert, 1974; Ward *et al.*, 1977). Additionally, Foster *et al.* (1981) conducted a survey of insects associated with *Gutierrezia sarothrae* (Pursh) N. L. Britt. & Rusby (Asteraceae) and found *S. knausii* to be present, although rare. In previously unpublished field work, we have collected numerous adults from *Desmanthus illinoensis* (Michx.) MacMill. *ex* Robinson & Fern. (Fabaceae) in Texas.

***Saxinis omogera* Lacordaire.** This species has been recorded from *Acacia*, *Desmodium*, *Gleditsia triacanthos* L., *Prosopis* (Fabaceae); *Quercus* (Fagaceae); *Hydrangea* (Hydrangeaceae); and *Ceanothus* (Rhamnaceae) (Balsbaugh & Hays, 1972; Burke *et al.*, 1974; Hespenheide, 1996; Löding, 1945; Moldenke, 1970; Riley & Enns, 1979; Ward *et al.*, 1977; Wilcox, 1979). It has also been swept from grass [Poaceae] (Kirk, 1970), but sweeping records should not necessarily be interpreted as host associations.

In previously unpublished field work in Illinois and Missouri, we have found adults feeding on foliage of *Desmanthus illinoensis* (Michx.) MacMill. *ex* Robinson & Fern., *Desmodium paniculatum* (L.) DC., and *Lepedeza hirta* (L.) Hornem. (Fabaceae). In Missouri, we have also found adults on *Lepedeza violacea* (L.) Pers. and *Orbexilum pedunculatum* var. *psoraloides* (Walt.) Isely (Fabaceae), but we did not observe the beetles in the act of feeding on these plants.

***Saxinis saucia* LeConte.** This species has been recorded from *Ambrosia acanthicarpa* Hook., *A. confertiflora* DC., *Artemisia californica* Less. (Asteraceae); *Lemaireocereus thurberi* (Engelm.) N. L. Britt. & Rose (Cactaceae); *Arctostaphylos patula* E. L. Greene (Ericaceae); *Eriogonum* (Polygonaceae); *Ceanothus* (Rhamnaceae); *Heteromeles arbutifolia* (Lindl.) M. J. Roem., *H. salicifolia* (C. Presl.) Abrams, apricot [*Prunus armeniaca* L.], almond [*Prunus dulcis* (Mill.) D. A. Webb], plum [*Prunus*], prune [*Prunus*], rose [*Rosa*] (Rosaceae); *Datura* (Solanaceae); and *Larrea tridentata* (Sesse & Moçino *ex* DC.) Coville (Zygophyllaceae) (Beller & Hatch, 1932; Carr, 1988; Dahl, 1941; Essig, 1958; Goeden & Ricker, 1974a, 1975; Hatch, 1971; Hopping, 1899; Jolivet, 1978; Knowlton, 1939; Malkin, 1943; Spruyt, 1925; Sweet, 1930; Valenti *et al.*, 1997).

In previously unpublished investigations in California, we confirm the association with *Eriogonum*. Beyond this, we have seen *S. saucia* labeled from Baja California in association with *Adenostoma sparsifolium* J. Torr. (Rosaceae).

***Saxinis sinuata* Schaeffer.** In previously unpublished field work in southern Texas, we have collected adults of this species from *Acacia rigidula* Benth. (Fabaceae).

***Saxinis sonorensis* Jacoby.** This species has been recorded in association with *Acacia*, *Cercidium*, *Lotus scoparius* (Nutt. *ex* Torr. & A. Gray) Ottley, and *Prosopis glandulosa* J. Torr. (Fabaceae) (Bibby, 1961; Hespenheide, 1996; Moldenke, 1970; Ward *et al.*, 1977). It has also been associated with *Eriogonum* (Polygonaceae) (Moldenke, 1970). Additionally, it has been reported from *Sphaeralcea* (Malvaceae) and *Adenostoma fasciculatum* Hook. & Arn. (Rosaceae) (Ward *et al.*, 1977).

***Saxinis subpubescens* Schaeffer.** This species has been reported from *Acacia* and mesquite [*Prosopis*] (Fabaceae) (Hespenheide, 1996; Moldenke, 1970; Ward *et al.*, 1977). Beyond this, Schaeffer (1906) recorded two specimens from oak [*Quercus*] (Fagaceae). In previously unpublished investigations, we have seen a

specimen labeled from Arizona in association with *Mimosa* (Fabaceae), a specimen labeled from Arizona in association with *Quercus arizonica* Sarg. (Fagaceae), and a specimen labeled from New Mexico in association with *Eriogonum* (Polygonaceae).

***Scelolyperus bimarginatus* (Blake).** One specimen has been collected from *Phlox subulata* L. (Polemoniaceae) and another from *Helleborus viridis* L. (Ranunculaceae) (Clark, 1998, 2000). Additionally, in previously unpublished investigations, we have seen material labeled from North Carolina in association with *Rhododendron* (Ericaceae).

***Scelolyperus carinatus* Wilcox.** In previously unpublished observations, we have associated beetles in California with *Ribes roezlii* E. A. Regel (Grossulariaceae).

***Scelolyperus curvipes* Wilcox.** This species has been reported from *Artemisia* and flowers of *Madia elegans* D. Don ex Lindl. (Asteraceae) (Clark, 1996).

***Scelolyperus cyanellus* (LeConte).** Clark (1996) reported the host to be *Phlox paniculata* L. (Polemoniaceae). This beetle species has also been recorded from spruce [*Picea*] (Pinaceae) and wild rose [*Rosa*] (Rosaceae) (Blatchley, 1910; Dearborn & Donahue, 1993; Jaques, 1951), but some of these records predate modern taxonomic revision, and the identity of the beetles is therefore extremely doubtful. Moreover, they may have been based on incidental occurrences. Boiteau (1983a) included *S. cyanellus* in a list of insects collected from potato fields [*Solanum tuberosum* L.] (Solanaceae), but this should not necessarily be interpreted as a host association.

***Scelolyperus flavicollis* (LeConte).** This species has been reported from *Erysimum argillosum* (Greene) Rydb. (Brassicaceae) (Clark, 1996). In previously unpublished observations, we have associated beetles in California with *E. capitatum* (Dougl. ex Hook.) Greene.

***Scelolyperus graptoderoides* (Crotch).** In previously unpublished observations, we have associated beetles in California with *Lupinus* (Fabaceae) and *Salvia leucophylla* E. L. Greene (Lamiaceae).

***Scelolyperus laticeps* (Horn).** This species has been found on *Ribes* (Grossulariaceae) and *Solanum* (Solanaceae) (Clark, 1996).

***Scelolyperus leontii* (Crotch).** This species has been recorded in association with *Apocynum androsaemifolium* L. (Apocynaceae) and *Psoralea physodes* Dougl. ex Hooker (Fabaceae) (Beller & Hatch, 1932; Clark, 1996; Hatch, 1971; Wilcox, 1965). Additionally, Wilcox (1965) recorded material from *Quercus* (Fagaceae), but this occurrence was probably adventitious. Beyond this, Schaeffer (1932a) recorded this beetle species from *Asclepias speciosa* J. Torr. (Asclepiadaceae), and Stace Smith (1929) recorded “*Luperodes* near *lecontei* – n. sp.” from this same plant. However, Wilcox (1965) indicated that such associations were probably in error.

In previously unpublished investigations, we have collected adults of *S. leontii* from blooming *Linanthus nuttallii* ssp. *nuttallii* (Gray) Green ex Milliken (Polemoniaceae) in southeastern New Mexico.

***Scelolyperus liriophilus* Wilcox.** This species has been recorded from *Cotinus obovatus* Raf. (Anacardiaceae); *Carpinus caroliniana* Walt. (Betulaceae); *Sambucus* (Caprifoliaceae); *Quercus* (Fagaceae); *Juglans nigra* L. (Juglandaceae); *Hemerocallis lilioasphodelus* L. (Liliaceae); *Phlox* (Polemoniaceae); *Salix* (Salicaceae); and *Staphylea trifolia* L. (Staphyleaceae) (Clark, 1996; Downie & Arnett, 1996; Riley & Enns, 1982; Wilcox, 1965, 1979). In our previously unpublished field work in North Carolina and West Virginia, we have found adults on a wide variety of plants, but they may not feed on all of them.

***Scelolyperus megalurus* Wilcox.** This species has been collected from flowers of *Madia elegans* D. Don ex Lindl. (Asteraceae) (Clark, 1996).

***Scelolyperus meracus* (Say).** This species has been associated with white birch [*Betula papyrifera* Marsh.], *Betula populifolia* Marsh. (Betulaceae); and *Hamamelis virginiana* L. (Hamamelidaceae) (Chittenden, 1892; Clark, 1996, 2000; Dearborn & Donahue, 1993; Downie & Arnett, 1996; Felt, 1907; Wickham, 1897; Wilcox, 1965, 1979). Larvae have been collected from a rotten log, thought to be oak [*Quercus*] (Fagaceae), that was beneath a living oak tree [*Quercus*] and a witch-hazel bush [*Hamamelis virginiana*] (Wilcox, 1965). Any host association was probably with *Hamamelis* rather than *Quercus*.

Beyond these reports, *S. meracus* has been reported from *Viburnum nudum* L. (Caprifoliaceae); chestnut [*Castanea*] (Fagaceae); fir [*Abies*], spruce [*Picea*], hemlock [*Tsuga*] (Pinaceae); rose [*Rosa*], blackberry [*Rubus*], and raspberry [*Rubus*] (Rosaceae) (Chittenden, 1892; Dearborn & Donahue, 1993; Hamilton, 1895; Johnson, 1927; Lovell, 1915; Proctor, 1938, 1946; Smith, 1900, 1910a; Wickham, 1897). However, most of these records predate modern taxonomic revision, and the identity of the beetles is therefore uncertain. Moreover, some of the associations may have been based on incidental occurrences.

***Scelolyperus nigrocyanus* (LeConte).** This species has been reported from *Balsamorhiza sagittata* (Pursh) Nutt., *Crepis acuminata* Nutt. (Asteraceae); *Lupinus caudatus* Kell. (Fabaceae); *Juncus* (Juncaceae); and *Rubus deliciosus* J. Torr. (Rosaceae) (Clark, 1996; Fall, 1910; Horning & Barr, 1970; Wilcox, 1965). Some of these associations involved flowers rather than foliage.

***Scelolyperus pasadenae* Clark.** This species has been collected from *Leptodactylon californicum* Hook. & Arn. (Polemoniaceae) (Clark, 1996).

***Scelolyperus phenacus* Wilcox.** This species has been collected from *Ribes inerme* Rydb. (Grossulariaceae) (Clark, 1996).

***Scelolyperus phoxus* Wilcox.** This species has been collected from *Adenostoma fasciculatum* Hook. & Arn. (Rosaceae) (Clark, 1996; Gilbert & Andrews, 1999).

***Scelolyperus schwarzii* Horn.** This species has been reported from *Berberis* (Berberidaceae); *Hypericum perforatum* L. (Clusiaceae); *Ceanothus laevigatus* DC. (Rhamnaceae); *Rosa montana* Chaix and *Rubus parviflorus* Nutt. (Rosaceae) (Clark, 1996; Hatch, 1971; Wilcox, 1965). In previously unpublished investigations, we have seen material labeled from Idaho in association with *Salix* (Salicaceae).

***Scelolyperus smaragdinus* (LeConte).** This species has been reported from mustard [*Brassica* or a similar genus] (Brassicaceae) and *Ceanothus* (Rhamnaceae) (Clark, 1996; Doane *et al.*, 1936). In previously unpublished observations, we have associated populations in California with *Phacelia* (Hydrophyllaceae) and *Leptodactylon californicum* Hook. & Arn. (Polemoniaceae).

***Scelolyperus torquatus* (LeConte).** This species has been reported from *Sambucus glauca* Nutt. *ex* Torr. & Gray (Caprifoliaceae); *Convolvulus* (Convolvulaceae); *Arctostaphylos* (Ericaceae); *Quercus* (Fagaceae); *Dendromecon rigida* Benth. (Papaveraceae); *Pinus ponderosa* Dougl. *ex* Lawson & C. Lawson (Pinaceae); *Ceanothus cuneatus* (Hook.) Nutt., *C. integerrimus* Hook. & Arn. (Rhamnaceae); *Adenostoma* (Rosaceae); and *Fremontodendron californicum* (Torr.) Cov. (Sterculiaceae) (Clark, 1996; Gilbert & Andrews, 1999; Hoppling, 1899; Moore, 1937; Wilcox, 1965). According to Gilbert & Andrews (1999), it is found most frequently on *Ceanothus* and *Adenostoma*.

***Scelolyperus transitus* (Horn).** This species has been collected from *Ceanothus cuneatus* (Hook.) Nutt. (Rhamnaceae) and *Ribes divaricatum* Dougl. (Grossulariaceae) (Clark, 1996; Wilcox, 1965). In previously unpublished field work in California, we have collected a series of adults from *Ribes aureum* Pursh.

***Scelolyperus varipes* (LeConte).** These insects are frequently found in association with species of *Ceanothus* (Rhamnaceae), including *C. integerrimus* Hook. & Arn., *C. sanguineus* Pursh, *C. thyrsiflorus* Eschsch., and *C. velutinus* Dougl. *ex* Hook. (Clark, 1996; Doane *et al.*, 1936). They have also been collected from *Haplopappus linearifolius* DC. (Asteraceae); *Libocedrus decurrens* J. Torr. (Cupressaceae); *Arctostaphylos* (Ericaceae); *Syringa* (Oleaceae); *Pinus* (Pinaceae); strawberry [*Fragaria*], *Prunus* (Rosaceae); *Ptelea crenulata* E. L. Greene (Rutaceae); and *Salix* (Salicaceae) (Clark, 1996). In previously unpublished observations, we have associated material from California with *Adenostoma fasciculatum* Hook. & Arn. (Rosaceae).

Additionally, this beetle species has been reported from rhubarb [*Rheum rhabarbarum* L.] (Polygonaceae), *Ceanothus laevigatus* DC. (Rhamnaceae), and rose [*Rosa*] (Rosaceae) (Beller & Hatch, 1932; Brisley, 1925; Fitzsimmons, 1962; Stace Smith, 1930). However, these associations predate modern taxonomic revision and the identity of the beetles is therefore uncertain.

***Scelolyperus wilcoxi* Hatch.** This species has been collected from *Phacelia* (Hydrophyllaceae) (Clark, 1996; Hatch, 1971).

***Sermylassa halensis* (Linnaeus).** Although this species has been reported from North America, its establishment is doubtful. Reported plant associations, mostly from the Eastern Hemisphere, involve *Senecio jacobaea* L. (Asteraceae); Betulaceae (genus not specified); *Rosa* (Rosaceae); *Galium mollugo* L., *G. verum* L. (Rubiaceae); *Salix* (Salicaceae); and *Melampyrum* (Scrophulariaceae) (Abdullah & Qureshi, 1968; Beutenmüller, 1890a; Biondi, 1993; Böving, 1929; Campobasso *et al.*, 1999; Cox, 1994; Jolivet & Hawkeswood, 1995; Jolivet & Petitpierre, 1973; Lopatin, 1984; Mohr, 1966; Paterson, 1931; Pemberton & Hoover, 1980; Steinhausen, 1996; Wilcox, 1965, 1979). Some of these recorded associations were probably based on incidental occurrences.

***Smaragdina militaris* (LeConte).** Adults have been associated with *Prosopis* (Fabaceae) and *Quercus* (Fagaceae) (Hespenheide, 1996; Moldenke, 1970; Riley *et al.*, 2002). Single beetles have also been reported from *Erigeron* and *Helianthus* (Asteraceae), but they were not thought to be feeding (Riley & Enns, 1979). In previously unpublished field work in Texas, we have collected adults from *Quercus fusiformis* Small and *Q. mohriana* Buckl. *ex* Rydb.

***Sphaeroderma testaceum* (Fabricius).** This Palearctic species has recently been collected in Nova Scotia from *Cirsium arvense* (L.) Scop. (Asteraceae) (Hoebeke & Wheeler, 2003). In the Eastern Hemisphere, it has been recorded from *Carduus acanthoides* L., *C. crispus* L., *C. defloratus* L., *C. nutans* L., *C. personata* (L.) Jacq., *Carlina*, *Cirsium acaule* (L.) Scop., *C. arvense*, *C. oleraceum* (L.) Scop., *C. palustre* (L.) Scop., *C. vulgare* (Savi) Tenn., artichoke [*Cynara scolymus* L.], *Onopordum illyricum* L., and *Serratula* (Asteraceae) (Batra *et al.*, 1981; Campobasso *et al.*, 1999; Gentry, 1965; Hoebeke & Wheeler, 2003; Mohr, 1966; Pemberton & Hoover, 1980; Verdyck & De Bruyn, 1991; Verdyck & De Bruyn, 1991; Zwölfer, 1969). Under experimental conditions, *S. testaceum* has fed on some of the plants mentioned above and also on *Cirsium rivulare*

Leaf Beetles and Associated Plants

(Jacq.) All. and *Silybum marianum* (L.) Gaertn. (Asteraceae) (Batra *et al.*, 1981; Hoebeke & Wheeler, 2003; Zwölfer, 1969).

In Europe, “*Sphaeroderma testaceum*?” has been reported from *Convolvulus arvensis* L. (Convolvulaceae) (Campobasso *et al.*, 1999). However, this occurrence was probably incidental.

***Spinthrophyta arizonensis* Schultz.** In previously unpublished investigations, we have seen material labeled from Arizona in association with *Quercus* (Fagaceae).

***Spinthrophyta exigua* Schultz.** This species has been collected from *Condalia lycioides* (Gray) Weberb. [*Ziziphus obtusifolia* A. Gray] (Rhamnaceae) (Schultz, 1970). It has also been reported from “*Boumeria*” [possibly *Bourreria* (Boraginaceae), *Bloomeria* (Liliaceae), *Borreria* (Rubiaceae), or *Boehmeria* (Urticaceae)] (Schultz, 1970).

In previously unpublished investigations, we have seen two specimens labeled from Texas in association with *Tiquilia greggii* (Torr. & Gray) A. Richards (Boraginaceae). Beyond this, records maintained by the USDA-ARS Grassland, Soil and Water Research Laboratory state that an adult specimen has been collected from foliage of *Prosopis glandulosa* J. Torr. (Fabaceae) in Brewster County, Texas (Thomas O. Robbins, pers. comm.).

***Spinthrophyta globosa* (Olivier).** Staines (1991) reported adults feeding on *Viburnum dentatum* L. (Caprifoliaceae). This beetle species has also been recorded from *Flourensia cernua* DC. (Asteraceae); *Corylus* (Betulaceae); *Ehretia elliptica* A. DC. (Boraginaceae); azalea [*Rhododendron*] (Ericaceae); mesquite [*Prosopis*], crimson clover [*Trifolium incarnatum* L.] (Fabaceae); *Quercus* (Fagaceae); *Comptonia peregrina* (L.) Coult. (Myricaceae); *Ceanothus americanus* L. (Rhamnaceae); *Rubus* (Rosaceae); and *Celtis* (Ulmaceae) (Balsbaugh & Hays, 1972; Lovell, 1915; Richerson & Boldt, 1995; Rouse & Medvedev, 1972; Schultz, 1970, 1976; Staines, 1991; Townsend, 1902).

In previously unpublished investigations conducted in Missouri, we have associated *S. globosa* with *Comandra umbellata* Nutt. (Santalaceae). In Texas, we have found adults feeding on foliage of *Verbesina virginica* L. (Asteraceae). Also in Texas, we have collected large numbers of adults from *Prosopis glandulosa* J. Torr. (Fabaceae), *Quercus fusiformis* Small (Fagaceae), and *Ulmus crassifolia* Nutt. (Ulmaceae). Additionally, we have seen specimens labeled from *Acacia* (Fabaceae) and *Celtis laevigata* Willd. (Ulmaceae). Thomas O. Robbins (pers. comm.) has collected series of this beetle species from *Helianthus* (Asteraceae) and *Ceanothus herbaceus* Raf. (Rhamnaceae) in central Texas.

***Spinthrophyta violaceipennis* (Horn).** This species has been reported from oak [*Quercus*] (Fagaceae) and *Salix* (Salicaceae) (Schaeffer, 1906; Schultz, 1970, 1976). Additionally, Schultz (1970, 1976) reported two specimens, each labeled from juniper [*Juniperus*] (Cupressaceae), oak [*Quercus*] (Fagaceae), and pinyon pine [*Pinus edulis* Engelm.] (Pinaceae).

***Stenispa collaris* Baly.** Schwarz (1876) recorded this species from under dry leaves near willow [*Salix*] (Salicaceae). However, he did not indicate a food plant relationship.

***Stenispa metallica* (Fabricius).** This species is associated with *Carex stricta* Lam. and *Scirpus atrovirens* Willd. (Cyperaceae), and possibly with *Spartina* (Poaceae) (Balsbaugh & Hays, 1972; Blatchley, 1910, 1924a; Downie & Arnett, 1996; Ford & Cavey, 1985; Hamilton, 1895; Riley & Enns, 1979; Riley *et al.*, 2002; Wilcox, 1954, 1979). Additionally, Kirk (1969) reported it from broomsedge [*Andropogon virginicus* L.] (Poaceae). This beetle species has also been found on low huckleberry [*Gaylussacia*] (Ericaceae) (Blatchley, 1924a), but this occurrence was almost certainly incidental. In previously unpublished field work, we have found *S. metallica* feeding on *Carex hyalinolepis* Steud. (Cyperaceae) in fens in eastern Missouri.

***Stenopodius flavidus* Horn.** This species is associated with Malvaceae, having been recorded from *Alcea rosea* L., *Gossypium*, *Malva*, *Malvastrum*, and *Sphaeralcea grossulariifolia* (Hook. & Arn.) Rydb. (Brisley, 1925; Carr, 1988; Essig, 1958; Jones & Brisley, 1925; Maulik, 1937; Moore, 1937; Needham *et al.*, 1928; Wickham, 1890b). Also, Chittenden (1902b, 1904b) reported it from a plant probably belonging to the genus *Abutilon*. However, considering that this record was from southern Texas, it is likely that the beetles belonged to a species other than true *S. flavidus*. In previously unpublished observations, we have associated *S. flavidus* with *Horsfordia alata* (S. Watson) A. Gray, *Malacothamnus fasciculatus* (Nutt.) E. Greene, and *Sphaeralcea orcuttii* Rose.

***Stenopodius insularis* Blaisdell.** This species has been associated with *Hibiscus denudatus* Benth. (Malvaceae) (Blaisdell, 1939; Carr, 1988). Additionally, in previously unpublished observations, we have collected it from *Sphaeralcea* (Malvaceae).

***Stenopodius lateralis* (Schaeffer).** Staines (1986a) reported specimens of this beetle species labeled from *Sphaeralcea emoryi* J. Torr. ex A. Gray (Malvaceae). Also, Hatch (1971) reported the synonym *Stenopodius vanduzeei* Blaisdell from *Sphaeralcea*. In previously unpublished observations, we have associated this beetle species with *S. ambigua* A. Gray and *S. orcuttii* Rose.

***Stenopodius martini* Blaisdell.** In previously unpublished observations, we have associated this species

with *Sphaeralcea* (Malvaceae).

***Stenopodius submaculatus* Blaisdell.** This species has been reported from *Malvastrum* (Malvaceae) (Carr, 1988).

***Stenopodius texanus* Schaeffer.** This species has been recorded from *Sphaeralcea emoryi* J. Torr. ex A. Gray and *S. lindheimeri* A. Gray (Malvaceae) (Moreno & Bibby, 1943; Staines, 1986a; Van Pelt, 1990). Additionally, Bibby (1961) reported “*Stenopodius* nr. *texanus*” collected also from *Sphaeralcea*. In previously unpublished investigations, we have confirmed the association with *S. lindheimeri*, having collected adults of *S. texanus* from this plant in southern Texas.

***Strabala acuminata* Blake.** This species, including populations in Latin America, has been reported from *Baltimora* (Asteraceae); *Ananas* (Bromeliaceae); string bean [*Phaseolus vulgaris* L.], black-eyed pea [*Vigna unguiculata* Clav.] (Fabaceae); *Oryza* (Poaceae); and *Spermacoce* (Rubiaceae) (Blake, 1953; Flowers & Janzen, 1997; Maes & Staines, 1991).

***Strabala ambulans* (Suffrian).** In Puerto Rico, the subspecies *S. a. puertoricensis* Blake has been collected from the foliage of *Solanum melongena* L. (Solanaceae) (Blake, 1953; Martorell, 1976).

***Strabala rotunda* Blake.** This species has been found on Para grass [*Brachiaria mutica* (Forssk.) Stapf] (Poaceae) in Panama (Blake, 1953). It has also been intercepted in shipments from Latin America of banana [*Musa*] (Musaceae); orchid [Orchidaceae]; green pepper [*Capsicum annuum* L.] and tomato [*Lycopersicon esculentum* Mill.] (Solanaceae) (Blake, 1953). However, these plants may not be hosts.

***Strabala rufa* (Illiger).** This species feeds on *Diodia* (Rubiaceae) (Riley *et al.*, 2002). In previously unpublished observations made in Arkansas, Louisiana, and Missouri, we have found that preferred hosts are apparently *D. teres* Walter and *D. virginiana* L.

This beetle species has also been reported from alfalfa [*Medicago sativa* L.] (Fabaceae), *Gossypium hirsutum* L. (Malvaceae), ash [*Fraxinus*] (Oleaceae), and tomato [*Lycopersicon esculentum* Mill.] (Solanaceae) (Blatchley, 1910; Downie & Arnett, 1996; Duckett, 1920; Moreno & Bibby, 1943; Rouse & Medvedev, 1972). Additionally, Beutenmüller (1890a) associated specimens, tentatively identified as this beetle species, with *Polygonum* (Polygonaceae). Blatchley (1924a) reported that *S. rufa* hibernates in Spanish moss [*Tillandsia usneoides* (L.) L.] (Bromeliaceae), but he did not suggest that this was a food plant. In laboratory tests, this beetle species has fed on leaves of cotton [*Gossypium*] (Malvaceae) (Folsom, 1936b).

The subspecies *S. r. floridana* Blake has been collected from sweet potato [*Ipomoea batatas* (L.) Lam.] (Convolvulaceae), lima bean [*Phaseolus lunatus* L.] (Fabaceae), sweet corn [*Zea mays* L.] (Poaceae), *Diodia virginiana* (Rubiaceae), and white potato [*Solanum tuberosum* L.] (Solanaceae) (Blake, 1953; Flowers *et al.*, 1994; Peck & Thomas, 1998).

In Puerto Rico, this beetle species has been reported from grass [Poaceae], *Solanum melongena* L. (Solanaceae), and *Trema micrantha* (L.) Blume (Ulmaceae) (Martorell, 1976; Wolcott, 1951). However, these reports were from observations made prior to taxonomic revision and were certainly not based on true *S. rufa*.

***Strongylocassis atripes* (LeConte).** This species is associated with Convolvulaceae, including *Calystegia sepium* (L.) R. Br. and *Ipomoea pandurata* (L.) G. F. W. Mey. (Borowiec, 1999; Downie & Arnett, 1996; Riley, 1985a, 1986a; Riley *et al.*, 2002; Walsh, 1866a). Riley *et al.* (2002) stated that *Convolvulus* is a food plant, but this may have been based on a species of *Calystegia*, the two plant genera not being distinguished by many plant taxonomists. In previously unpublished investigations conducted in eastern Texas, we have collected adults and larvae of this beetle species from *Stylisma pickeringii* var. *pattersonii* (Fern. & Schub.) Myint (Convolvulaceae).

Schwitzgebel & Wilbur (1942) reported one specimen of “*Mettriona* sp. prob. *atripes* (Lec.)” from *Vernonia interior* Small [*V. baldwinii* ssp. *interior* (Small) W. Z. Faust] (Asteraceae). This occurrence was likely adventitious.

***Sumitrosis ancoroides* (Schaeffer).** Hosts are *Strophostyles helvula* (L.) Ell. and *S. umbellata* (Muhl. ex Willd.) N. L. Britt. (Fabaceae) (Butte, 1969; Cavey, 1994; Clark, 2000; Downie & Arnett, 1996; Ford & Cavey, 1985; Kirk, 1970). Additionally, in previously unpublished investigations in Missouri, we have extracted an adult from a blotch mine in a leaflet of *Stylosanthes biflora* (L.) B.S.P. (Fabaceae).

This beetle species has also been recorded in association with *Chamaecrista fasciculata* (Michx.) Greene and *C. nictitans* (L.) Moench (Fabaceae) (Ford & Cavey, 1985). However, these associations were apparently based on misidentified *Sumitrosis pallescens* (Baly) (see Cavey, 1994). Beyond these reports, *S. ancoroides* has been reported from soybean [*Glycine max* (L.) Merr.] (Fabaceae) (Rouse & Medvedev, 1972), but this plant may not be a normal host.

***Sumitrosis arnetti* Butte.** This species has been collected from *Baccharis* and *Zexmenia* (Asteraceae) (Butte, 1969).

***Sumitrosis inaequalis* (Weber).** This species is associated with Asteraceae, having been reported from *Aster sagittifolius* Willd., *Eupatorium ageratoides* L. f., *E. maculatum* L., *E. perfoliatum* L., *E. rugosum*

Houtt., *E. urticifolium* L. f., *Eurybia divaricata* (L.) Nesom, *Euthamia graminifolia* (L.) Nutt., *Helianthus hirsutus* Raf., *Polymnia*, *Rudbeckia triloba* L., *Solidago canadensis* L., *S. gigantea* Ait., *S. ulmifolia* Muhl. ex Willd., *Aster simplex* Willd. [*Symphytotrichum lanceolatum* (Willd.) Nesom], *Symphytotrichum novae-angliae* (L.) Nesom, and *Vernonia noveboracensis* (L.) Willd. (Blatchley, 1924a; Butte, 1969; Chagnon, 1938; Chagnon & Robert, 1962; Chambers, 1872; Clark, 2000; Downie & Arnett, 1996; Ford & Cavey, 1985; Maulik, 1937; McPherson, 1985; Messina & Root, 1980; Needham *et al.*, 1928; Riley & Enns, 1979; Watson, 1922; Wheeler & Snook, 1986; Wilcox, 1979).

In Missouri, we have personally reared adults from larvae found in blotch mines on *Eupatorium rugosum* and *Symphytotrichum anomalum* (Engelm.) Nesom. Also in Missouri, we have found adults feeding on foliage of *Rudbeckia laciniata* L. and *S. anomalum*. In Illinois, we have found an adult on foliage of *Symphytotrichum shortii* (Lindl.) Nesom, but actual feeding was not observed.

Hicks (1944) stated that this beetle species is a very common leaf miner of *Celastrus scandens* L. (Celastraceae). Later (Hicks, 1965), he reported "*Anoplitis* sp." from this same plant. Likely based on these reports, Wilcox (1979) also listed *S. inaequalis* from *C. scandens*. Conceivably, *Celastrus*-associated beetles belong to a species, perhaps undescribed, distinct from true *S. inaequalis*.

Additionally, *S. inaequalis* has been reported from Fabaceae, including *Chamaecrista nictitans* (L.) Moench, *Robinia neomexicana* A. Gray, and black locust [*R. pseudoacacia* L.] (Balsbaugh & Hays, 1972; Burbutis, 1963e; Butte, 1969; Dillon & Dillon, 1961; Downie & Arnett, 1996; Felt, 1930; Maulik, 1937; Needham *et al.*, 1928; Wheeler & Snook, 1986; Wilcox, 1954, 1979). However, as noted by Ford & Cavey (1985) and Wheeler & Snook (1986), such reports are in error, being based on species other than true *S. inaequalis*. Chambers (1880) and Harris (1863) reported the synonym *Hispa suturalis* Fabricius also from *Robinia pseudoacacia*, but this was probably based on confusion with the homonym *H. suturalis* Harris, a synonym of *Odontota dorsalis* (Thunberg).

Beyond these reports, *S. inaequalis* has been reported from *Rhus* (Anacardiaceae); *Asclepias syriaca* L. (Asclepiadaceae); *Chamaedaphne* (Ericaceae); white oak [*Quercus alba* L.] (Fagaceae); fir [*Abies*], spruce [*Picea*] (Pinaceae); and elm [*Ulmus*] (Ulmaceae) (Anonymous, 1964p; Blatchley, 1924a; Butte, 1969; Dailey *et al.*, 1978; Dearborn & Donahue, 1993; Downie & Arnett, 1996; Maulik, 1937; Watson, 1922). However, these associations were likely incidental or based on misidentification. Also, in spite of the fact that Stace Smith (1947) stated that *Epilobium adenocaulon* Haussk. (Onagraceae) is a true host, it is doubtful that beetles are normally associated with this plant. Boiteau (1983a) included *S. inaequalis* in a list of insects collected from potato fields [*Solanum tuberosum* L.] (Solanaceae), but this should not be interpreted as a host association.

***Sumitrosis pallescens* (Baly).** This species has been associated with *Chamaecrista fasciculata* (Michx.) Greene, *C. nictitans* (L.) Moench, and *Strophostyles* (Fabaceae) (Butte, 1969; Cavey, 1994; Downie & Arnett, 1996; Hespenheide & Dang, 1999; Staines, 1996). In Central America, it has also been reported from pea [possibly *Pisum sativum* L.] (Fabaceae) (Hespenheide & Dang, 1999).

***Sumitrosis rosea* (Weber).** This species is normally associated with Fabaceae, having been recorded from *Amorpha fruticosa* L., *Amphicarpaea bracteata* (L.) Fern., *Desmodium glutinosum* (Muhl. ex Willd.) Wood, *D. paniculatum* (L.) DC., honey locust [*Gleditsia triacanthos* L.], *Glycine max* (L.) Merr., *Laburnum*, *Lespedeza intermedia* (S. Wats. ex A. Gray) Britt., lima bean [*Phaseolus lunatus* L.], field bean [*Phaseolus vulgaris* L.], *Robinia hispida* L., *R. neomexicana* A. Gray, and *R. pseudoacacia* L. (Bickenstaff & Huggans, 1962; Butte, 1969; Clark, 2000; Deitz *et al.*, 1976; Ford & Cavey, 1985; Johnson & Lyon, 1991; Riley & Enns, 1979; Ruesink, 1984; Trippel, 1934; Wheeler, 1987; Wheeler & Snook, 1986). Buntin & Pedigo (1982) reported *Baliosus nervosus* (Panzer) feeding on *Glycine max*, *Phaseolus lunatus*, and *P. vulgaris*; however, as noted by Ruesink (1984), this was based on misidentified *S. rosea*.

In previously unpublished investigations, we have seen specimens of *S. rosea* labeled as being reared from leaf mines on *Amorpha glabra* Desf. in North Carolina. We also confirm the association with *A. fruticosa*, having collected adults of this beetle species from this plant in central Texas.

Beyond Fabaceae, *S. rosea* has been recorded in association with *Laportea canadensis* (L.) Wedd. (Urticaceae) (Balsbaugh & Hays, 1972; Clark, 2000; Ford & Cavey, 1985; McPherson, 1985; Riley & Enns, 1979; Ruesink, 1984; Wheeler & Snook, 1986; Wilcox, 1979). Also, Hicks (1965) reported *Anoplitis philemon* (Newman), currently recognized as a synonym of *S. rosea*, also from *L. canadensis*. Future research will likely show that such beetles are not conspecific with the Fabaceae-feeding forms.

Additionally, *S. rosea* has been recorded from *Chenopodium album* L. (Chenopodiaceae); wild sweet potato [*Ipomoea pandurata* (L.) G. F. W. Mey.] (Convolvulaceae); dogwood [*Cornus*] (Cornaceae); *Cyrilla racemiflora* L. (Cyrillaceae); oak [*Quercus*] (Fagaceae); *Crataegus*, *Pyrus malus* L. [*Malus sylvestris* P. Mill.] (Rosaceae); willow [*Salix*] (Salicaceae); *Tilia americana* L. (Tiliaceae); and elm [*Ulmus*] (Ulmaceae) (Balsbaugh & Hays, 1972; M. W. Brown, 1993; M. W. Brown *et al.*, 1988; Butte, 1969; Ford & Cavey, 1985;

Gibson, 1904; Harrington, 1883; Herrick, 1935; Noguera, 1988; Packard, 1888; Rouse & Medvedev, 1972; Trippel, 1934; Wheeler & Snook, 1986; Wilcox, 1979). At least some of these occurrences were probably incidental. Moreover, according to Ford & Cavey (1985), the association with *Chenopodium* was likely based on a misidentified plant. Also, some of the records may have been based on misidentified insects.

Harris (1835, 1841, 1863) reported "*Hispa rosea*" in association with *Amelanchier ovalis* Medik., *Aronia arbutifolia* (L.) Pers., apple [*Malus sylvestris*] (Rosaceae); and poplar [*Populus*] (Salicaceae). He also proposed the variety *Hispa quercifoliae* based on material associated with oak [*Quercus*] (Fagaceae). The true identity of his material is unknown, but was almost certainly not *S. rosea*. Also, *S. rosea* is reported to occur on Asteraceae (Downie & Arnett, 1996; Wilcox, 1954, 1979), but, as noted by Ford & Cavey (1985), Ruesink (1984), and Wheeler & Snook (1986), such reports are in error.

***Syneta albida* LeConte.** This species has been recorded from *Acer circinatum* Pursh (Aceraceae); *Alnus*, *Corylus* (Betulaceae); *Cornus* (Cornaceae); *Trifolium* (Fabaceae); *Ribes* (Grossulariaceae); hawthorn [*Crataegus*], quince [*Cydonia oblonga* Mill.], *Fragaria*, wild crab apple [*Malus coronaria* (L.) P. Mill.], *Malus glaucescens* Rehder, *Pyrus malus* L. [*M. sylvestris* P. Mill.], apricot [*Prunus armeniaca* L.], *Prunus cerasus* L., Italian prune [*P. domestica* L.], *P. galatensis* Poir., *P. persica* (L.) Batsch, Bartlett pear [*Pyrus communis* L.], *Spiraea* (Rosaceae); *Populus* and *Salix* (Salicaceae) (Anonymous, 1964b; Beller & Hatch, 1932; Brisley, 1927; Capizzi, 1957b; Carr, 1988; Doane *et al.*, 1936; Edwards, 1953; Essig, 1915b, 1958; Fisher & Newcomer, 1919; Furniss & Carolin, 1977; Hatch, 1971; Jolivet, 1977; Jolivet & Hawkeswood, 1995; Koebele, 1894; MacNay & Creelman, 1958; Melander & Heald, 1916; Moznette, 1916; Newcomer, 1941, 1966; Papp, 1984; Raizenne, 1975; Riley & Howard, 1892; Slingerland & Crosby, 1915; Stephenson, 1962; Stephenson & Goeden, 1964; Stewart, 1963; Swan & Papp, 1972; White, 1983; Wilson & Moznette, 1915; Yothers, 1916; Yu *et al.*, 1996).

***Syneta carinata* Mannerheim.** This species has been associated with *Abies lasiocarpa* (Hook.) Nutt., *Pinus ponderosa* Dougl. ex Lawson & C. Lawson, and *Tsuga mertensiana* (Bong.) Carr. (Pinaceae) (Beller & Hatch, 1932; Brisley, 1927; Carr, 1988; Doane *et al.*, 1936; Edwards, 1953; Essig, 1958; Furniss & Carolin, 1977; Hatch, 1971).

***Syneta extorris* Brown.** Food plants of this species, both of *S. e. extorris* and of *S. e. borealis* Brown, are Pinaceae, with recorded associations with *Abies balsamea* (L.) P. Mill., *A. fraseri* (Pursh) Poir., *Picea glauca* (Moench) Voss, *P. rubens* Sarg., and *Pinus* (Brown, 1961; Clark, 1993; Dearborn & Donahue, 1993; Downie & Arnett, 1996; Raizenne, 1975; Wilcox, 1979). Clark (2000) recorded specimens of "*Syneta* ? *extorris*" collected from *Acer rubrum* L. (Aceraceae), but he believed this occurrence to be incidental.

***Syneta ferruginea* (Germar).** This species has been reported from *Alnus rugosa* (Du Roi) Spreng. [*A. incana* ssp. *rugosa* (Du Roi) Clausen], white birch [*Betula papyrifera* Marsh.], *Corylus cornuta* Marsh., *Ostrya virginiana* (Mill.) K. Koch (Betulaceae); beech [*Fagus grandifolia* Ehrh.], *Quercus* (Fagaceae); buckeye [*Aesculus*] (Hippocastanaceae); peach [*Prunus persica* (L.) Batsch] (Rosaceae); and elm [*Ulmus*] (Ulmaceae) (Anonymous, 1985; Baker, 1972; Blatchley, 1910; Brown, 1961; Clark, 1993; Dearborn & Donahue, 1993; Dillon & Dillon, 1961; Dimmock, 1885; Doane *et al.*, 1936; Downie & Arnett, 1996; Edwards, 1949, 1953; Felt, 1907; Fitch, 1859a; Harrington, 1883; Johnson, 1927; MacAloney, 1950; Packard, 1890; Proctor, 1938, 1946; Raizenne, 1975; Riley & Enns, 1979; Riley & Howard, 1893; Riley *et al.*, 2002; Wickham, 1896a; Wilcox, 1954, 1979). Plants in the Betulaceae are apparently normal hosts. Edwards (1953) stated that the association with *Quercus* might have been adventitious.

Beyond these reports, *S. ferruginea* has been reported from *Abies balsamea* (L.) P. Mill., *A. fraseri* (Pursh) Poir., *Larix laricina* (Du Roi) K. Koch, *Picea glauca* (Moench) Voss, and pine [*Pinus*] (Pinaceae) (Brown, 1941; Dearborn & Donahue, 1993; Edwards, 1953), but at least some of these associations were likely based on *Syneta extorris* Brown. Similarly, *S. ferruginea* has been reported from cedar [*Chamaecyparis*, *Juniperus*, *Thuja*, or a similar genus] (Cupressaceae) (Dearborn & Donahue, 1993), but these associations may also have been based on misidentification. Additionally, *S. ferruginea* has been collected by sweeping ferns [Pteridophyta] (Edwards, 1953; Proctor, 1938, 1946). However, sweeping records, without supporting evidence, should not be interpreted as host associations.

***Syneta hamata* Horn.** This species has been recorded from *Acer circinatum* Pursh (Aceraceae); *Berberis* (Berberidaceae); *Alnus*, *Betula*, *Corylus* (Betulaceae); *Abies lasiocarpa* (Hook.) Nutt. (Pinaceae); and *Rubus occidentalis* L. (Rosaceae) (Beller & Hatch, 1932; Brisley, 1927; Carr, 1988; Doane *et al.*, 1936; Edwards, 1953; Hatch, 1971; Raizenne, 1975). In previously unpublished investigations, we have seen *S. hamata* labeled from Washington in association with *Salix* (Salicaceae).

***Syneta pilosa* Brown.** Food plants are reported to be *Abies*, *Picea glauca* (Moench) A. Voss., and *Pinus contorta* Dougl. ex Loudon (Pinaceae) (Dearborn & Donahue, 1993; Downie & Arnett, 1996; Edwards, 1953; Hatch, 1971; Wilcox, 1979).

***Syneta seriata* LeConte.** Hosts are species of *Quercus* (Fagaceae), this beetle species having been re-

corded from *Q. agrifolia* Née, *Q. kelloggii* Newb., and *Q. turbinella* E. L. Greene (Brisley, 1927; Carr, 1988; Edwards, 1953).

***Syneta simplex* LeConte.** The subspecies *S. s. simplex* is associated with species of *Quercus* (Fagaceae), including *Q. garryana* Dougl. ex Hook. (Beller & Hatch, 1932; Brisley, 1927; Carr, 1988; Doane *et al.*, 1936; Edwards, 1953; Essig, 1958; Furniss & Carolin, 1977; Hatch, 1971). The food plant of *S. s. subalpina* Edwards is *Abies lasiocarpa* (Hook.) Nutt. (Pinaceae) (Carr, 1988; Edwards, 1953, 1954; Hatch, 1971). Additionally, *S. simplex* (subspecies not clearly indicated) has been reported from *Quercus* (Fagaceae), fruit trees [likely Rosaceae], and *Salix* (Salicaceae) (Carr, 1988; Essig, 1915b, 1958; Stace Smith, 1930).

***Synetocephalus adenostomatus* (White).** This species has been associated with *Adenostoma fasciculatum* Hook. & Arn. (Rosaceae) (Carr, 1988; Clark, 1987; White, 1942b; Wilcox, 1965).

***Synetocephalus atricornis* (Fall).** Clark (1987) recorded a specimen collected from *Ceanothus fendleri* A. Gray (Rhamnaceae).

***Synetocephalus autumnalis* Fall.** This species has been collected from *Ceanothus crassifolius* J. Torr. and *C. cuneatus* (Hook.) Nutt. (Rhamnaceae) (Clark, 1987).

***Synetocephalus bivittatus* (LeConte).** This species has been recorded from *Aesculus californica* (Spach) Nutt. (Hippocastanaceae); *Adenostoma*, *Prunus americana* Marsh., *P. armeniaca* L., almond [*P. dulcis* (Mill.) D. A. Webb], *P. galatensis* Poir., *P. persica* (L.) Batsch, *P. subcordata* Benth. (Rosaceae); and *Salix* (Salicaceae) (Anonymous, 1958f, 1962d, 1968m; Carr, 1988; Clark, 1987; Doane *et al.*, 1936; Essig, 1915b, 1958; Moore, 1937; White, 1942b). Of these plants, *Aesculus* is apparently the preferred host.

***Synetocephalus crassicornis* (Fall).** In previously unpublished observations, we have associated populations in California with *Eriogonum inflatum* J. Torr. & Frem. (Polygonaceae).

***Synetocephalus curvatus* (Fall).** In previously unpublished investigations, we have associated beetles in California with *Purshia tridentata* (Pursh) DC. (Rosaceae).

***Synetocephalus diegensis* (Blake).** This species has been collected from *Adenostoma fasciculatum* Hook. & Arn. (Rosaceae) (Blake, 1942; Carr, 1988; Clark, 1987; Wilcox, 1965).

***Synetocephalus monorhabdus* (Blake).** In previously unpublished investigations, we have associated beetles in California with *Adenostoma fasciculatum* Hook. & Arn. (Rosaceae).

***Synetocephalus* sp.** In an unpublished dissertation, a new species was reported from *Adenostoma fasciculatum* Hook. & Arn. (Rosaceae) (Clark, 1987).

***Syphrea flavicollis* (Jacoby).** This species has been associated with *Argythamnia lanceolata* (Benth.) Muell.-Arg., *A. neomexicana* Muell.-Arg., and *A. serrata* (Torr.) Muell.-Arg. (Euphorbiaceae) (Riley *et al.*, 2001). It has also been found on *Cienfuegosia rosei* Fryxell (Malvaceae) (Riley *et al.*, 2001).

***Syphrea nana* (Crotch).** Food plants are Euphorbiaceae, including *Croton capitatus* Michx., *C. glandulosus* L., *C. monanthogynus* Michx., and *Crotonopsis elliptica* Willd. [*Croton willdenowii* G. L. Webster] (Balsbaugh & Hays, 1972; Flowers *et al.*, 1994; Peck & Thomas, 1998; Riley & Enns, 1979; Schwarz, 1890). Beetles have also been reported from *Eupatorium* (Asteraceae) and corn [*Zea mays* L.] (Poaceae) (Blatchley, 1924a; Flowers *et al.*, 1994; Peck & Thomas, 1998; Rouse & Medvedev, 1972), but these are not normal hosts.

Flowers *et al.* (1994) reported *Syphrea nigrifolia* (Linell), a synonym of *Nesaecrepida asphaltina* (Suffrian), feeding on *Croton glandulosus* (Euphorbiaceae). However, our examination of beetle vouchers reveals that this record was based on misidentification of *S. nana*.

***Syphrea nitidiventris* (Fall).** In previously unpublished investigations in the Baja California peninsula of Mexico, we have associated this species with *Bernardia mexicana* (Hook. & Arn.) Mull. Arg. (Euphorbiaceae).

***Systema bitaeniata* (LeConte).** This species has been reported from turnip [*Brassica rapa* L.] (Brassicaceae); beet [*Beta vulgaris* L.], Swiss chard [*Beta vulgaris*] (Chenopodiaceae); *Convolvulus* (Convolvulaceae); alfalfa [*Medicago sativa* L.], bean [likely *Phaseolus vulgaris* L.] (Fabaceae); and cotton [*Gossypium*] (Malvaceae) (Anonymous, 1967n, 1968d; Blake, 1935; Carr, 1988; Knowlton, 1954b, 1955c; Knowlton & Smith, 1935, 1970). It has also been swept from locoweed [interpreted by Carr (1988) as *Astragalus* or *Oxytropis*] (Fabaceae) (Blake, 1935). Beyond these reports, Knowlton (1955c) recorded “*Systema* sp. prob. *bitaeniata*” from alfalfa [*Medicago sativa*]. In previously unpublished investigations, we have collected adults of *S. bitaeniata* from blooming *Linanthus nuttallii* ssp. *nuttallii* (Gray) Green ex Milliken (Polemoniaceae) in south-eastern New Mexico.

***Systema blanda* Melsheimer.** This species, sometimes cited as the questionable synonym *S. taeniata* (Say), has been recorded from *Amaranthus blitoides* S. Wats., *A. graecizans* L., *A. retroflexus* L., spiny amaranth [*A. spinosus* L.] (Amaranthaceae); *Rhus* (Anacardiaceae); *Daucus carota* L., *Pastinaca sativa* L., parsley [*Petroselinum crispum* (Mill.) Nyman ex A. W. Hill] (Apiaceae); spreading dogbane [*Apocynum androsaemifolium* L.] (Apocynaceae); *Ambrosia artemisiifolia* L., *A. confertiflora* DC., *A. eriocentra* (Gray) Payne, *A. psilostachya* DC., *A. trifida* L., *Anthemis cotula* L., *Arctium minus* (Hill) Bernh., *Artemisia*, *Aster*,

Baccharis neglecta Britt., *B. salicifolia* (Rufz & Pav.) Pers., *B. salicina* J. Torr. & A. Gray, *B. sarothroides* A. Gray, *Calendula*, *Carduus pycnocephalus* L., chrysanthemum [*Chrysanthemum* or a similar genus], daisy [*Chrysanthemum* or a similar genus], *Cirsium arvense* (L.) Scop., *C. mohavense* (Greene) Petrak, *C. neomexicanum* A. Gray, *C. californicum* A. Gray [*C. occidentale* var. *californicum* (Gray) Keil & C. Turner], *C. proteanum* J. T. Howell [*C. occidentale* var. *venustum* (Greene) Jepson], *C. vulgare* (Savi) Tenn., horseweed [*Conyza canadensis* (L.) Cronq.], dahlia [*Dahlia*], *Erigeron canadensis* L., *Franseria*, *Galinsoga parviflora* Cav., *Gutierrezia sarothrae* (Pursh) N. L. Britt. & Rusby, *Helianthus annuus* L., *H. petiolaris* Nutt., *Iva axillaris* Pursh, *I. xanthifolia* Nutt., *Lactuca sativa* L., *Chrysanthemum leucanthemum* L. [*Leucanthemum vulgare* Lam.], *Parthenium argentatum* A. Gray, *P. hysterophorus* L., goldenrod [*Solidago*], *Xanthium commune* Britt., *X. orientale* L., *X. spinosum* L., *X. strumarium* L. (Asteraceae); *Armoracia rusticana* (Lam.) P. G. Gaertn., B. Mey., & Scherb., *Brassica napus* L., *B. oleracea* L., *B. rapa* L., mustard [*Brassica* or a similar genus], *Capsella bursa-pastoris* (L.) Medik., *Cardaria draba* (L.) Desv., *Lepidium virginicum* L., *Raphanus sativus* L. (Brassicaceae); *Cannabis sativa* L. (Cannabaceae); weigela [*Weigelia*] (Caprifoliaceae); *Beta vulgaris* L., *Chenopodium album* L., *C. botrys* L., *Kochia scoparia* (L.) Schrad., poverty weed [*Monolepis*], *Salsola kali* L. (Chenopodiaceae); *Calystegia sepium* (L.) R. Br., *Ipomoea batatas* (L.) Lam. (Convolvulaceae); cornel [*Cornus*], dogwood [*Cornus*] (Cornaceae); *Citrullus vulgaris* Schrad. ex Eckl. & Zeyh. [*C. lanatus* (Thunb.) Matsum. & Nakai], *Cucumis melo* L., cucumber [*C. sativus* L.], butternut squash [*Cucurbita moschata* (Duchn. ex Lam.) Duchn. ex Poir.], *Cucurbita pepo* L. (Cucurbitaceae); *Arachis hypogaea* L., *Glycine max* (L.) Merr., lespedeza [*Lespedeza*], *Medicago lupulina* L., *M. sativa* L., lima bean [*Phaseolus lunatus* L.], *Phaseolus vulgaris* L., *Pisum sativum* L., crimson clover [*Trifolium incarnatum* L.], *Trifolium pratense* L., *T. repens* L., *Vicia*, cowpea [*Vigna unguiculata* Clav.] (Fabaceae); *Quercus palustris* Muenchh., *Q. rubra* L. (Fagaceae); *Lamium amplexicaule* L., *Mentha canadensis* L., *Perilla*, *Salvia lanceolata* Lam., *Satureja hortensis* L. (Lamiaceae); avocado [*Persea americana* Mill.] (Lauraceae); *Allium cepa* L. (Liliaceae); crepe myrtle [*Lagerstroemia indica* L.] (Lythraceae); okra [*Abelmoschus esculentus* (L.) Moench], *Gossypium herbaceum* L., *Malva rotundifolia* L. (Malvaceae); *Oenothera biennis* L. (Onagraceae); *Plantago aristata* Michx., *P. lanceolata* L., *P. major* L., *P. rugelii* Decne., *P. virginica* L. (Plantaginaceae); *Avena sativa* L., *Cenchrus*, rye [*Elymus* or *Secale*], English bluegrass [*Festuca elatior* L.], millet [*Panicum* or *Setaria*], *Phleum pratense* L., bluegrass [*Poa*], *Setaria glauca* (L.) Beauv., milo [*Sorghum bicolor* (L.) Moench], wheat [*Triticum*], *Zea mays* L. (Poaceae); *Eriogonum*, *Polygonum persicaria* L., rhubarb [*Rheum rhabarbarum* L.], horse sorrel [*Rumex acetosella* L.], red sorrel [*Rumex acetosella*] (Polygonaceae); *Portulaca oleracea* L. (Portulacaceae); *Fragaria chiloensis* (L.) Duchn., *Pyrus malus* L. [*Malus sylvestris* P. Mill.], *Pyrus communis* L., *Rubus villosus* Thunb. [*R. corchorifolius* L. f.], raspberry [*Rubus*] (Rosaceae); *Capsicum annuum* L., *Datura stramonium* L., *Lycopersicon esculentum* Mill., *Nicotiana tabacum* L., *Solanum nigrum* L. [a North American record, therefore probably *S. americanum* P. Mill.], *S. elaeagnifolium* Cav., *S. melongena* L., *S. rostratum* Dunal, *S. triflorum* Nutt., *S. tuberosum* L. (Solanaceae); *Verbena bracteata* Lag. & Rodr., *V. stricta* Vent., *V. urticifolia* L. (Verbenaceae); and *Vitis* (Vitaceae) (Abdullah & Qureshi, 1969; Amos & Wrens, 1963; Anderson, 1967; Anonymous, 1954a, 1954c, 1954d, 1954f, 1955c, 1956b, 1956f, 1956g, 1957b, 1957d, 1957e, 1959b, 1959o, 1960b, 1960d, 1960h, 1960l, 1960n, 1961a, 1961b, 1961c, 1962e, 1962f, 1962i, 1962j, 1963b, 1964e, 1964o, 1964q, 1965a, 1965c, 1965l, 1965m, 1966d, 1966n, 1966s, 1967f, 1967h, 1968d, 1968e, 1968f, 1969b, 1973; Balduf, 1923; Balsbaugh & Hays, 1972; Batra, 1979; Batra *et al.*, 1981; Bechtel, 1961; Bechtel & Parker, 1960, 1961c, 1961d; Bechtel & Zoller, 1960; Bechtel *et al.*, 1959; Beckham, 1958, 1962; Beckham & Dupree, 1954; Beckham & Tippins, 1972; Beirne, 1971; Bickenstaff & Huggans, 1962; Bissell, 1941; Blake, 1935; Blatchley, 1910; Boldt & Robbins, 1987, 1990, 1994; Boldt *et al.*, 1988; Boyes *et al.*, 1966; Bray & Triplehorn, 1953; Brisley, 1925; Bruner, 1891a, 1891b, 1891c; Burbutis, 1959a, 1959b, 1959d, 1962c, 1963c, 1967; Burbutis & Davis, 1966a, 1966b; Burbutis & Jenkins, 1963; Burbutis & Mason, 1959a, 1960f, 1960g, 1960k, 1960l, 1960n, 1961c, 1961d, 1961i, 1961j; Cancienne, 1964c; Capinera, 1978; Carr, 1920, 1988; Chittenden, 1899a, 1900, 1902a, 1903b, 1903c, 1912b; Chupp & Leiby, 1953; Clark, 2000; Cranshaw, 1992; Crosby & Leonard, 1918; Cuthbert & Reid, 1965; Daniels, 1937; Davidson & Lyon, 1987; Deitz *et al.*, 1976; Dillon & Dillon, 1961; Douglass, 1929; Drake & Harris, 1931; Duckett, 1920; Dudley *et al.*, 1952; Dupree, 1965b, 1965c, 1965d; Dustan, 1932; Ebeling, 1959; Essig, 1915b, 1958; Everly, 1938; Fall & Cockerell, 1907; Felt, 1901, 1902a, 1907; Forbes, 1894, 1896, 1905, 1909; Forbes & Hart, 1900; Foster *et al.*, 1981; Fox & Stirrett, 1952; Gibson, 1913; Gillette, 1893; Goeden, 1971a, 1974; Goeden & Ricker, 1975, 1976b, 1976c, 1986b, 1987b; Gordon, 1973; Guthrie *et al.*, 1963; Hagen, 1961, 1967; Hallock, 1939; Harned, 1953; Harris & Piper, 1970; Hawley, 1922, 1925; Hilgendorf & Goeden, 1981, 1982, 1983; Hill & Tate, 1944; Hill *et al.*, 1967; Hopkins & Rumsey, 1896; Huber & White, 1965; Hutson, 1937, 1956, 1957b; Isakson & Parson, 1966; Jacques, 1987; Johnson, 1899, 1956, 1957, 1959, 1968a, 1968b, 1968c, 1968d, 1968e, 1968f, 1968h, 1968i, 1968k, 1968l, 1969a, 1969b, 1969c, 1969d, 1970; Johnson & Burchett, 1970a, 1970b; Johnson & Parshall, 1968; Jones, 1966a, 1967; Jones & Walstrom, 1966; Jordan, 1952; Kirk, 1969, 1970;

Knowlton, 1930, 1939; Knowlton & Smith, 1935; Kovalev, 1971; Kyd *et al.*, 1959a; Lago & Stanford, 1989; Lange, 1944; Lee *et al.*, 1998; Lintner, 1888, 1891; Lugger, 1899; MacCreary, 1957; MacCreary & Conrad, 1958a, 1958b, 1958d; MacGregor & Gutiérrez, 1983; McClay *et al.*, 1995; McQueen, 1963b, 1964d, 1964e, 1964f; Metcalf & Metcalf, 1993; Milliron, 1955d, 1956c, 1957c, 1957d, 1958; Milliron & Conrad, 1957c; Milliron & Hantsbarger, 1955; Morris, 1959; Mullett, 1954; Murdock & Mitchell, 1954; Neiswander, 1931; Newell & Smith, 1905; Newsom, 1963d, 1963h; Niemczyk & Guyer, 1963; Osborn, 1891; Packard, 1877, 1890; Palmer, 1987; Papp, 1984; Parshall, 1970; Patch, 1913; Pepper, 1957; Pimentel, 1961; Poos & Elliott, 1936; Popenoe, 1877; Radcliffe *et al.*, 1990; Roemhild, 1955, 1959; Rogers, 1988; Root, 1973; Roth, 1960; Rouse & Medvedev, 1972; Sakurada, 1966; Samuelson, 1988; Sanderson & Peairs, 1931; Schweissing, 1965; Scott, 1954; Seibels, 1966; Shands & Landis, 1964; Slingerland & Crosby, 1915; Smith, 1900, 1910a, 1970; Sorensen & Baker, 1983; Stear, 1918; Stirrett, 1924, 1935; Story *et al.*, 1985; Swan & Papp, 1972; Thomas, 1927; Thomas & Werner, 1981; Tynes, 1964d, 1964f; Underhill, 1928; Walker, 1961; Webster, 1888, 1890b, 1890c; Westcott, 1946; Wheeler & Stimmel, 1983; White, 1983; Wickham, 1902; Wilcox, 1979; Wood *et al.*, 1961; Woodside, 1964). Records maintained by the USDA-ARS Grassland, Soil and Water Research Laboratory state that adults have been collected from foliage of *Baccharis pteronioides* DC. (Asteraceae) (Thomas O. Robbins, pers. comm.).

Additionally, Goeden & Ricker (1968) reported adults of “*Systema* sp. prob. *blanda*” to be occasionally present on *Salsola kali* (Chenopodiaceae). Knowlton (1955c, 1957a) recorded beetles questionably identified as *S. blanda* from carrot blossoms [*Daucus carota*] (Apiaceae); *Ericameria nauseosa* (Pall. ex Pursh) Nesom & Baird (Asteraceae); alfalfa [*Medicago sativa*], blossoming yellow sweetclover [*Melilotus officinalis* (L.) Pall.] (Fabaceae); a minty weed [Lamiaceae]; and *Salix* (Salicaceae).

Earlier workers frequently confused *S. blanda* with *S. elongata* (Fabricius) and other species. As a result, some of the above-mentioned associations were likely based on misidentification. Brisley (1925) associated Arizona specimens of “*Systema pallida* Boh.” (probably a misspelling of *S. pallidula* Boheman, an apparently South American species) with *Artemisia*, *Baccharis glutinosa* Pers. [*B. salicifolia*], *Erigeron canadensis*, *Helianthus petiolaris*, and *Xanthium commune* (Asteraceae). Likely, his report was based on misidentification of *S. blanda* or a similar species.

***Systema carri* Blake.** This species has been collected from *Apocynum* (Apocynaceae) (Blake, 1935; Smith, 1970).

***Systema collaris* Crotch.** Smith (1970) recorded two specimens labeled from peach [*Prunus persica* (L.) Batsch] (Rosaceae). In previously unpublished investigations, we have identified a series of *S. collaris* that was labeled as feeding on Texas persimmon [*Diospyros texana* Scheele] (Ebenaceae).

***Systema corni* Schaeffer.** This species feeds on *Cornus florida* L. (Cornaceae) (Balsbaugh & Hays, 1972; Downie & Arnett, 1996; Löding, 1945; Riley & Enns, 1982; Schaeffer, 1932b; Smith, 1970).

***Systema dimorpha* Blake.** This species has been recorded from *Xanthium* (Asteraceae), *Beta vulgaris* L. (Chenopodiaceae), and *Abelmoschus esculentus* (L.) Moench (Malvaceae) (Blake, 1933b; Carr, 1988; Hilgendorf & Goeden, 1982; Smith, 1970).

***Systema elongata* (Fabricius).** This species has been recorded from celery [*Apium*], *Daucus carota* L. (Apiaceae); *Ambrosia artemisiifolia* L., *Carduus nutans* L., dahlia [*Dahlia*], *Helenium*, *Xanthium strumarium* L. (Asteraceae); *Brassica napus* L., cabbage [*B. oleracea* L.], turnip [*B. rapa* L.], *Raphanus sativus* L. (Brassicaceae); *Cannabis sativa* L. (Cannabaceae); *Beta vulgaris* L., spinach [*Spinacia oleracea* L.] (Chenopodiaceae); *Ipomoea batatas* (L.) Lam. (Convolvulaceae); *Cucumis melo* L. (Cucurbitaceae); peanut [*Arachis hypogaea* L.], soybean [*Glycine max* (L.) Merr.], lespedeza [*Lespedeza*], *Medicago sativa* L., lima bean [*Phaseolus lunatus* L.], snap bean [*Phaseolus vulgaris* L.], *Trifolium incarnatum* L., *Vicia*, cowpea [*Vigna unguiculata* Clav.] (Fabaceae); *Gossypium* (Malvaceae); corn [*Zea mays* L.] (Poaceae); *Polygonum* (Polygonaceae); bell pepper [*Capsicum annuum* L.], tomato [*Lycopersicon esculentum* Mill.], *Nicotiana tabacum* L., eggplant [*Solanum melongena* L.], *Solanum tuberosum* L. (Solanaceae); and *Vitis* (Vitaceae) (Anonymous, 1959g, 1966c; Ashmead, 1890, 1894; Balsbaugh & Hays, 1972; Batra *et al.*, 1981; Beckham, 1962; Beller & Hatch, 1932; Bickenstaff & Huggans, 1962; Bissell, 1941; Blake, 1935; Blatchley, 1910, 1924a; Cancienne, 1964c; Carr, 1988; Clark, 2000; Clopp & Farrier, 1956; Cuthbert & Davis, 1970, 1971; Cuthbert & Jones, 1972; Cuthbert & Reid, 1965; Deitz *et al.*, 1976; Dogger, 1954; Dogger & Scott, 1953; Downie & Arnett, 1996; Duckett, 1920; Dupree, 1965a; Farrier, 1956a, 1957; Folsom, 1936a; Harris & Piper, 1970; Hilgendorf & Goeden, 1982; Jacques, 1987; Kirk, 1969, 1970; Kirk & Balsbaugh, 1975; Knowlton & Taylor, 1952; Kovalev, 1971; Lago & Mann, 1987; Lago & Stanford, 1989; Long & Dogger, 1953; McDaniel *et al.*, 1992; Morihara & Balsbaugh, 1976; Nettles, 1961b; Rouse & Medvedev, 1972; Smith, 1970; Walker, 1961; Wilcox, 1954, 1979). Additionally, Knowlton (1955b) recorded “*Systema* sp., nr. *elongata*” from celery fields [*Apium*] (Apiaceae).

***Systema frontalis* (Fabricius).** This species has been reported from *Amaranthus retroflexus* L. (Ama-

ranthaceae); *Rhus toxicodendron* L. [*Toxicodendron radicans* (L.) Kuntze] (Anacardiaceae); carrot [*Daucus carota* L.], parsley [*Petroselinum crispum* (Mill.) Nyman ex A. W. Hill] (Apiaceae); *Apocynum cannabinum* L. (Apocynaceae); *Ilex verticillata* (L.) Gray (Aquifoliaceae); *Asclepias syriaca* L. (Asclepiadaceae); *Ambrosia artemisiifolia* L., *A. trifida* L., *Arctium lappa* L., *A. minus* (Hill) Bernh., *Aster frondosa* L., *Carduus nutans* L., *Chrysanthemum*, *Cirsium arvense* (L.) Scop., dahlia [*Dahlia*], *Erechtites hieraciifolia* (L.) Raf. ex DC., *Eupatorium purpureum* L., *Euthamia graminifolia* (L.) Nutt., *Helianthus annuus* L., *Helichrysum*, *Lactuca canadensis* L., *Chrysanthemum leucanthemum* L. [*Leucanthemum vulgare* Lam.], *Solidago* (Asteraceae); *Impatiens biflora* Willd. (Balsaminaceae); *Alnus incana* (L.) Moench (Betulaceae); horseradish [*Armoracia rusticana* (Lam.) P. G. Gaertn., B. Mey., & Scherb.], *Brassica oleracea* L., turnip [*B. rapa* L.] (Brassicaceae); *Humulus lupulus* L. (Cannabaceae); *Diervilla*, *Lonicera japonica* Thunb. ex Murray, *Weigelia* (Caprifoliaceae); *Beta vulgaris* L., *Chenopodium album* L. (Chenopodiaceae); *Triadenum virginicum* (L.) Raf. (Clusiaceae); *Ipomoea batatas* (L.) Lam. (Convolvulaceae); *Rhododendron viscosum* (L.) Torr., *Vaccinium corymbosum* L., *V. macrocarpon* Ait. (Ericaceae); *Apios tuberosa* Moench [A. *americana* Medik.], *Glycine max* (L.) Merr., alfalfa [*Medicago sativa* L.], lima bean [*Phaseolus lunatus* L.], *Phaseolus vulgaris* L., *Trifolium pratense* L., *T. repens* L., horse bean [*Vicia faba* L.] (Fabaceae); black currant [*Ribes nigrum* L.], gooseberry [probably *Ribes*] (Grossulariaceae); *Lachnanthes tinctoria* (Walt. ex Gmel.) S. Ell. (Haemodaceae); *Iris versicolor* L. (Iridaceae); *Lycopus rubellus* Moench, mint [*Mentha*, *Teucrium*, or a similar genus], *Prunella vulgaris* L. (Lamiaceae); flax [*Linum*] (Linaceae); *Decodon verticillatus* (L.) Ell., crape myrtle [*Lagerstroemia indica* L.] (Lythraceae); okra [*Abelmoschus esculentus* (L.) Moench], *Abutilon theophrasti* Medik., *Althaea officinalis* L., cotton [*Gossypium*], *Hibiscus militaris* Cav. [*H. laevis* Scop.] (Malvaceae); *Myrica gale* L. (Myricaceae); forsythia [*Forsythia*] (Oleaceae); *Epilobium adenocaulon* Haussk., *Oenothera biennis* L. (Onagraceae); *Osmunda regalis* L. (Osmundaceae); *Plantago major* L. (Plantaginaceae); rice [*Oryza sativa* L.], *Setaria faberi* Herrm., *Zea mays* L. (Poaceae); *Fagopyrum*, *Polygonum convolvulus* L., *P. hydropiper* L., *P. lapathifolium* L., *P. pensylvanicum* L., *P. persicaria* L., *P. sagittatum* L., *Rumex acetosella* L. (Polygonaceae); *Lysimachia terrestris* (L.) B.S.P. (Primulaceae); strawberry [*Fragaria*], apple [*Malus sylvestris* P. Mill.], *Pyrus communis* L., *Rosa carolina* L., *R. nitida* Willd., *Rubus*, *Spiraea tomentosa* L. (Rosaceae); *Cephalanthus occidentalis* L., *Diodia teres* Walter, *D. virginiana* L., gardenia [*Gardenia*] (Rubiaceae); *Salix cordata* Michx., *S. rostrata* Richards. (Salicaceae); *Smilax rotundifolia* L. (Smilacaceae); eggplant [*Solanum melongena* L.], *Solanum tuberosum* L. (Solanaceae); and *Vitis riparia* Michx. (Vitaceae) (Anonymous, 1960b, 1963b, 1963k, 1964a, 1967d, 1967p, 1976a; Balsbaugh & Hays, 1972; Balsbaugh & Jones, 1966; Batra *et al.*, 1981; Beirne, 1971; Bickenstaff & Huggans, 1962; Blatchley, 1896, 1910, 1924a; Boiteau, 1983a; Bruner, 1891a, 1891b, 1895; Burbutis & Evans, 1963a; Chittenden, 1892, 1902a, 1903b, 1903c; Chupp & Leiby, 1953; Creelman, 1966; Crosby & Leonard, 1918; Cuthbert & Davis, 1970; Cuthbert & Jones, 1972; Cuthbert & Reid, 1965; Dailey *et al.*, 1978; Davidson & Lyon, 1987; Deitz *et al.*, 1976; Dillon & Dillon, 1961; Dogger & Baldwin, 1962; Douglas & Ingram, 1942; Downie & Arnett, 1996; Drees, 1977b; Duckett, 1920; Everly, 1938; Felt, 1901, 1902a; Flaskerd *et al.*, 1958; Flowers *et al.*, 1994; Forbes & Hart, 1900; Franklin, 1950; Gibson, 1913, 1928; Guppy, 1958; Hallock, 1939; Harris & Piper, 1970; Hawley, 1918, 1922; Hilgendorf & Goeden, 1981; Hudson *et al.*, 1964; Jacques, 1987; Jacques & Peters, 1969, 1971; Johnson & Hammar, 1910; Kovalev, 1971; Lincoln & Black, 1959; Lintner, 1888; Lugger, 1899; MacNay, 1965; Manson *et al.*, 1963; McGiffin & Neunzig, 1985; Morihara & Balsbaugh, 1976; Nault *et al.*, 1978; Patch, 1913; Peck & Thomas, 1998; Perron, 1964; Peters & Barton, 1969; Riley, 1983; Riley & Howard, 1891d; Rouse & Medvedev, 1972; Scammell, 1917; Smith, 1900, 1910a, 1910c, 1970; Stirrett, 1924, 1935; Storch *et al.*, 1979; Turpin, 1975; Walker, 1961; Webster, 1888; Wells, 1975; Wheeler & Stimmel, 1983; Wilcox, 1954, 1979; Williams, 1990; Wressell, 1963).

In previously unpublished investigations, we have collected a series of *S. frontalis* in Ohio from *Justicia americana* (L.) Vahl. (Acanthaceae). In Illinois and Missouri, we have found adults feeding on leaves of *Xanthium* (Asteraceae), *Polygonum amphibium* var. *emersum* Michx. (Polygonaceae), and *Spermacoce glabra* Michx. (Rubiaceae). Also in Illinois and Missouri, we have found adults on *Acalypha virginica* L. (Euphorbiaceae), *Ammannia coccinea* Rottb. (Lythraceae), *Ludwigia peploides* (Kunth) Raven (Onagraceae), and *Phyla lanceolata* (Michx.) Greene (Verbenaceae), but we have not observed beetles in the act of feeding. Additionally, we have seen specimens labeled from Ohio in association with *Ulmus pumila* L. (Ulmaceae).

Overwintering beetles have been reported from beneath bark of *Acer dasycarpum* Ehrh. (Aceraceae) and among leaves of mullein [*Verbascum*] (Scrophulariaceae) (Blatchley, 1896, 1910; Crosby & Leonard, 1918). However, food plant relationships were not indicated for these plants. Additionally, *S. frontalis* has been reported from Puerto Rico in association with sugar cane [*Saccharum officinarum* L.] (Poaceae) (Newton, 1929), but this was undoubtedly based on misidentified beetles.

***Systema gracilenta* Blake.** This species has been recorded from *Artemisia*, *Baccharis halimifolia* L., *Solidago gigantea* Ait., *S. serotina* Retz. (Asteraceae); *Croton* (Euphorbiaceae); and *Monarda citriodora*

Leaf Beetles and Associated Plants

Cerv. ex Lag. (Lamiaceae) (Blake, 1933b; Smith, 1970). In previously unpublished investigations, we have collected this beetle species in Texas from *Baccharis neglecta* Britt. and *Chloracantha spinosa* (Benth.) Nesom (Asteraceae).

***Systema hudsonias* (Forster).** This species has been recorded from pigweed [*Amaranthus*] (Amaranthaceae); *Asclepias tuberosa* L. (Asclepiadaceae); *Ambrosia artemisiifolia* L., *A. trifida* L., *Arctium minus* (Hill) Bernh., Canada thistle [*Cirsium arvense* (L.) Scop.], *Conyza canadensis* (L.) Cronq., *Erigeron canadensis* L., *E. philadelphicus* L., *Eupatorium fistulosum* Barratt, *E. purpureum* L., *Helianthus annuus* L., *Leucanthemum maximum* (Ramond) DC., *Chrysanthemum leucanthemum* L. [*L. vulgare* Lam.], *Rudbeckia hirta* L., *Solidago*, *Symphotrichum novae-angliae* (L.) Nesom Asteraceae; cabbage [*Brassica oleracea* L.] (Brassicaceae); *Canna* (Cannaceae); *Sambucus canadensis* L. (Caprifoliaceae); *Beta vulgaris* L., *Chenopodium album* L. (Chenopodiaceae); cranberry [*Vaccinium*] (Ericaceae); soybean [*Glycine max* (L.) Merr.], pole bean [*Phaseolus vulgaris* L.], clover [likely *Trifolium*] (Fabaceae); *Coleus*, *Mentha spicata* L., *Nepeta cataria* L., *Prunella vulgaris* L. (Lamiaceae); *Oenothera biennis* L. (Onagraceae); *Plantago lanceolata* L., *P. major* L. (Plantaginaceae); *Zea mays* L. (Poaceae); *Polygonum hydropiper* L., *Rumex acetosella* L. (Polygonaceae); *Pyrus malus* L. [*Malus sylvestris* P. Mill.], crabtree [*Malus*], pear [*Pyrus*] (Rosaceae); *Solanum tuberosum* L. (Solanaceae); *Ulmus* (Ulmaceae); *Verbena urticifolia* L. (Verbenaceae); and *Vitis* (Vitaceae) (Abdullah & Qureshi, 1969; Anonymous, 1962; Beirne, 1971; Bickensstaff & Huggans, 1962; Blatchley, 1910; Chittenden, 1892, 1902a, 1903b, 1903c; Clark, 2000; Cockerell, 1917; Craighead, 1923; Crosby & Leonard, 1918; Dickerson & Weiss, 1920; Dillon & Dillon, 1961; Downie & Arnett, 1996; Duckett, 1920; Felt, 1902a; Forbes, 1905; Forbes & Hart, 1900; Gentner, 1926a; Gui, 1938; Hambleton, 1954; Harris & Piper, 1970; Hilgendorf & Goeden, 1981; Messina & Root, 1980; Metcalf & Metcalf, 1993; Neiswander, 1931; Patch, 1913; Radcliffe et al., 1990; Slingerland & Crosby, 1915; Smith, 1910c, 1970; Stirrett, 1924; Wilcox, 1954, 1979; Williams, 1990).

Additional associations have been discovered in our previously unpublished investigations. In Missouri, we have found adults of *S. hudsonias* feeding on *Cirsium*, *Echinacea paradoxa* (Norton) Britton, *Silphium terebinthinaceum* Jacq., and *Symphotrichum oblongifolium* (Nutt.) Nesom (Asteraceae). Also in Missouri, we have also found adults on *Polygonum pensylvanicum* L. (Polygonaceae), and a captive beetle fed on this plant. Still in Missouri, we have found adults on *Bidens vulgata* Greene, *Helianthus mollis* Lam., *H. tuberosus* L., *Solidago altissima* L., *S. rigida* L., *Vernonia* (Asteraceae); and *Salvia albida* Jacq. (Lamiaceae). However, we have not observed beetles in the act of feeding on these plants. In West Virginia, we have collected adults from *Eupatorium rugosum* Houtt. (Asteraceae).

Wray & Brimley (1943) reported *S. hudsonias* from *Sarracenia flava* L. (Sarraceniaceae). However, this was probably an instance in which the insects were prey rather than herbivores.

***Systema laevis* Blake.** This species has been found on *Baccharis bigelovii* A. Gray, *B. pteronioides* DC., rabbitbrush [*Chrysothamnus* or *Ericameria*], *Flourensia cernua* DC. (Asteraceae); and *Beta vulgaris* L. (Chenopodiaceae) (Blake, 1935; Boldt & Robbins, 1994; Carr, 1988; Richerson & Boldt, 1995; Smith, 1970). Additionally, Knowlton (1955c) reported "*Systema* sp., prob. *laevis*" from *Chrysothamnus*.

In previously unpublished field work in Utah, we have collected multiple series of *S. laevis* from *Eri-cameria nauseosa* (Pall. ex Pursh) Nesom & Baird. Records maintained by the USDA-ARS Grassland, Soil and Water Research Laboratory state that adults have been collected from foliage of *Baccharis sarothroides* A. Gray and *Gutierrezia sarothrae* (Pursh) N. L. Britt. & Rusby (Asteraceae) (Thomas O. Robbins, pers. comm.).

***Systema marginalis* (Illiger).** This species has been reported from ragweed [*Ambrosia*], *Polymnia* (Asteraceae); *Alnus*, birch [*Betula*] (Betulaceae); sweet potato [*Ipomoea batatas* (L.) Lam.] (Convolvulaceae); *Cercis canadensis* L., clover [likely *Trifolium*] (Fabaceae); red oak [*Quercus rubra* L.] (Fagaceae); *Liquidambar styraciflua* L. (Hamamelidaceae); sweet hickory [*Carya glabra* (Mill.) Sweet or *C. ovata* (Mill.) K. Koch], *Carya illinoensis* (Wang.) K. Koch (Juglandaceae); cotton [*Gossypium*] (Malvaceae); *Myrica* (Myricaceae); wheat [*Triticum*] (Poaceae); *Polygonum* (Polygonaceae); *Amelanchier canadensis* Medik., *Crataegus*, apple [*Malus sylvestris* P. Mill.], peach [*Prunus persica* (L.) Batsch], *P. virginiana* L. (Rosaceae); pond-cypress [*Taxodium ascendens* Brongn.], *Taxodium distichum* (L.) L. C. Rich. (Taxodiaceae); *Ulmus* (Ulmaceae); Virginia creeper [*Parthenocissus*] and *Vitis rotundifolia* Michx. (Vitaceae) (Abdullah & Qureshi, 1969; Anonymous, 1985; Baker, 1972; Balsbaugh & Hays, 1972; Blatchley, 1910, 1924a; M. W. Brown, 1993; Denmark, 1956; Dillon & Dillon, 1961; Douglass, 1929; Downie, 1957; Downie & Arnett, 1996; Duckett, 1920; Felt, 1907, 1930; Gibson, 1913, 1914; Hamilton, 1895; Harrington, 1883; Jacques, 1987; Kirk, 1969, 1970; Lee, 1949; Lintner, 1888; McGiffin & Neunzig, 1985; Packard, 1890; Rouse & Medvedev, 1972; Smith, 1900, 1910a, 1970; Stirrett, 1924; Wellhouse, 1922; Wilcox, 1954, 1979; Wilkinson & Hetrick, 1967). In previously unpublished investigations in eastern Texas, we have collected adults of *S. marginalis* from *Quercus nigra* L. (Fagaceae) and *Nyssa* (Nyssaceae).

***Systema mitis* (LeConte).** This species has been reported from *Beta vulgaris* L. (Chenopodiaceae); *Medicago sativa* L., bean [likely *Phaseolus vulgaris* L.] (Fabaceae); cotton [*Gossypium*] (Malvaceae); tomato [*Lycopersicon esculentum* Mill.] and potato [*Solanum tuberosum* L.] (Solanaceae) (Blake, 1935; Carr, 1988; Cassidy, 1889; Smith, 1970; Werner *et al.*, 1979).

***Systema pallicornis* Schaeffer.** In previously unpublished investigations, we have associated this species with *Borrchia frutescens* (L.) DC. (Asteraceae) along the coast of southern Texas.

According to Smith (1970), a recorded association of *S. pallicornis* with bean [likely *Phaseolus vulgaris* L.] (Fabaceae) was probably based on *S. frontalis* (Fabricius). Neiswander (1931), who listed *S. pallicornis* from corn [*Zea mays* L.] (Poaceae), apparently also did not distinguish this beetle species from *S. frontalis*. In other reports, *S. pallicornis* has been recorded from alligatorweed [*Alternanthera philoxeroides* (Mart.) Griseb.] (Amaranthaceae); soybean [*Glycine max* (L.) Merr.], bean [likely *Phaseolus vulgaris*] (Fabaceae); rice [*Oryza sativa* L.] (Poaceae); and *Polygonum* (Polygonaceae) (Beirne, 1971; Dogger & Baldwin, 1962; Johnson, 1927; Kirk, 1970; Proctor, 1938, 1946). However, these associations were based on observations made in Ontario, Iowa, Maine, and South Carolina, far outside the generally recognized range of this Texas species. Accordingly, the reports were probably also in error.

***Systema pallipes* Schwarz.** This species has been reported from *Polygonum* (Polygonaceae) (Jacques, 1987).

***Systema plicata* Blatchley.** Recorded associations involve species of *Taxodium* (Taxodiaceae), including *T. ascendens* Brongn. (Balsbaugh & Hays, 1972; Downie & Arnett, 1996; Jacques, 1987; Smith, 1970; Wilcox, 1979).

***Systema sexnotata* Fall.** Smith (1970) recorded two adults collected from walnut [*Juglans*] (Juglandaceae). Beyond this, Ward *et al.* (1977) listed “*Systema* sp. near *sexnotata*” from mesquite [*Prosopis*] (Fabaceae). In previously unpublished investigations, we have collected adults of *S. sexnotata* from *Carya* and/or *Juglans* (Juglandaceae) in central and western Texas.

***Thricolema anomala* Crotch.** This species has been associated with *Juniperus occidentalis* Hook., *Libocedrus decurrens* J. Torr. (Cupressaceae); and *Sequoia sempervirens* (D. Don) Endl. (Taxodiaceae) (Carr, 1988; Doane *et al.*, 1936; Riley *et al.*, 2002).

***Timarcha cerdo* Stål.** This species has been reported in association with *Fragaria chiloensis* (L.) Duchn., *F. vesca* L., *Rubus parviflorus* Nutt., *R. spectabilis* Pursh, and *R. vitifolius* Cham. & Schltdl. (Rosaceae) (Jolivet, 1976, 1989a, 1989b, 1995b; Jolivet & Petitpierre, 1973, 1992; Peters, 1991; Poinar, 2001; Poinar *et al.*, 2002). It has also been reported from bean [likely *Phaseolus vulgaris* L.] (Fabaceae) and *Vaccinium* (Ericaceae) (Jolivet, 1948a, 1948c; Jolivet & Hawkeswood, 1995; Jolivet & Petitpierre, 1973; Malkin, 1943), but these plants are probably not normal hosts.

***Timarcha intricata* Haldeman.** This species has been reported in association with *Fragaria chiloensis* (L.) Duchn., *F. vesca* L., *Rosa*, *Rubus parviflorus* Nutt., *R. procerus* P. J. Muell., *R. spectabilis* Pursh, and *R. vitifolius* Cham. & Schltdl. (Rosaceae) (Carr, 1988; Clark & Jolivet, 2000; Edwards, 1981; Goeden, 1961; Hatch, 1971; Jolivet, 1948a, 1948c, 1976, 1989a, 1989b, 1995b; Jolivet & Hawkeswood, 1995; Jolivet & Petitpierre, 1973; Jolivet & Verma, 2002; Poinar, 2001). It has also been reported from *Gaultheria shallon* Pursh, *Rhododendron macrophyllum* D. Don ex G. Don, *Vaccinium myrtillus* L., *V. ovatum* Pursh, and *V. scoparium* Leib. ex Coville (Ericaceae) (Carr, 1988; Goeden, 1971c; Hatch, 1971; Jolivet, 1948c; Jolivet & Petitpierre, 1973; Jolivet & Verma, 2002; Poinar, 2001; Poinar *et al.*, 2002).

Hatch (1971) rightly discounted a report from bean [likely *Phaseolus vulgaris* L.] (Fabaceae). Wickham (1890a) wrote, “*Timarcha intricata* I found always under logs in moss. Whether it feeds on this or not I cannot say.” The answer is surely negative.

***Trachymela sloanei* (Blackburn).** In California, this adventive species has been associated with *Eucalyptus camaldulensis* Dehnh. (Myrtaceae) (Garrison, 1998; Riley *et al.*, 2001, 2002).

***Triachus atomus* (Suffrian).** This species has been recorded from *Rhus copallina* L., *R. glabra* L. (Anacardiaceae); *Gaylussacia*, blueberry [*Vaccinium*] (Ericaceae); *Quercus ilicifolia* Wangeh. (Fagaceae); *Comptonia peregrina* (L.) Coult., *Myrica cerifera* L. (Myricaceae); and *Ceanothus* (Rhamnaceae) (Banks, 1912; Blatchley, 1910, 1924a; Chittenden, 1892; Downie & Arnett, 1996; Hamilton, 1895; Johnson, 1927; Kirk, 1969; Kirk & Balsbaugh, 1975; Proctor, 1938, 1946; Riley & Enns, 1979; Smith, 1900, 1910a; Wilcox, 1954, 1979).

***Triachus cerinus* LeConte.** This species has been reported from *Baccharis halimifolia* L. (Asteraceae); *Cliftonia monophylla* (Lam.) N. L. Britt. ex Sarg., *Cyrilla racemiflora* L. (Cyrillaceae); *Ceratiola ericoides* Michx. (Empetraceae); *Kalmia* (Ericaceae); *Quercus* (Fagaceae); *Myrica* (Myricaceae); and *Ceanothus americanus* L. (Rhamnaceae) (Blatchley, 1924a; Flowers *et al.*, 1994; Lovell, 1915; Palmer & Bennett, 1988; Peck & Thomas, 1998; Wilcox, 1979). Additionally, in Puerto Rico, it has been recorded from flowers of *Randia aculeata* L. (Rubiaceae) (Martorell, 1976; Wolcott, 1936, 1951). In previously unpublished inves-

tigations, we have seen a specimen labeled from Florida in association with *Rhus terebinthifolia* Schlecht. & Cham. (Anacardiaceae).

***Triachus postremus* LeConte.** This species has been recorded from *Baccharis angustifolia* Michx., *B. halimifolia* L. (Asteraceae); *Crataegus* (Rosaceae); and *Ampelopsis* (Vitaceae) (Burke *et al.*, 1974; Flowers *et al.*, 1994; Peck & Thomas, 1998).

***Triachus vacuus* LeConte.** This species has been associated with *Rhus glabra* L. (Anacardiaceae) (Clark, 2000; Riley & Enns, 1979). Additionally, in previously unpublished investigations in New Jersey, we have collected a large series from *Myrica* (Myricaceae).

***Triarius lividus* (LeConte).** This species has been reported from *Dasyllirion*, *Nolina* (Agavaceae); Asteraceae (genus not specified); and *Xerophyllum* (Liliaceae) (Clark, 1987; Wilcox, 1965).

***Triarius melanolomatus* (Blake).** This species has been reported from *Nolina* (Agavaceae), cactus [Cactaceae], *Acacia* (Fabaceae), and *Sphaeralcea* (Malvaceae) (Bibby, 1961; Clark, 1987). In previously unpublished investigations, we have collected specimens in California from *Adenostoma fasciculatum* Hook. & Arn. (Rosaceae), and we have seen specimens labeled from California in association with *Erigeron* (Asteraceae).

***Triarius nigroflavus* Riley, Clark, and Gilbert.** In previously unpublished observations, we have associated beetles in California with *Adenostoma fasciculatum* Hook. & Arn. (Rosaceae).

***Triarius pini* (Schaeffer).** This species has been collected from *Pinus* (Pinaceae) (Clark, 1987; Schaeffer, 1906; Wilcox, 1965).

***Triarius trivittatus* Horn.** This species has been collected from *Nolina* (Agavaceae) and Asteraceae (genus not specified) (Clark, 1987; Wilcox, 1965).

***Triarius vittipennis* (Horn).** This species has been reported from mesquite [*Prosopis*] (Fabaceae), *Condalia* (Rhamnaceae), *Fallugia paradoxa* (D. Don) Endl. *ex* Torr. in Emory (Rosaceae), and *Solanum elaeagnifolium* Cav. (Solanaceae) (Clark, 1987; Goeden, 1971a; Ward *et al.*, 1977; Wilcox, 1965). In previously unpublished investigations, we have collected adults of this beetle species from flowers of *Acacia angustissima* var. *hirta* (Nutt.) B. L. Robbins (Fabaceae) in central Texas.

***Trichaltica scabricula* (Crotch).** This species is apparently associated with Oleaceae. It has been reported from *Fraxinus pennsylvanica* Marsh., *F. quadrangulata* Michx., and *Ligustrum* (Dury, 1879; Riley & Enns, 1979; Rouse & Medvedev, 1972; Wilcox, 1979). In previously unpublished field work in Missouri, we have found numerous adults feeding on *Fraxinus americana* L. Also in Missouri, we have found adults on *Chionanthus virginicus* L., and a captive beetle fed on this plant. Additionally, we have identified adults that were collected by Thomas O. Robbins from *Fraxinus texensis* (Gray) Sarg. in central Texas.

Beyond Oleaceae, *Trichaltica* has been reported from Arkansas in association with *Populus* (Salicaceae) (Jolivet, 1991a; Jolivet & Hawkeswood, 1995). Only *T. scabricula* is known to occur in or near Arkansas, other species of *Trichaltica* occurring in far removed regions. In any case, *Populus* is probably not a normal host.

***Trichaltica tibialis* (Jacoby).** In previously unpublished investigations in Arizona, we have associated this species with *Fraxinus* (Oleaceae). We have also seen Arizona material labeled from *Quercus hypoleucoides* A. Camus (Fagaceae).

***Tricholochmaea alni* (Fall).** Hosts are reported to be species of *Alnus* (Betulaceae), including *A. incana* (L.) Moench (Abdullah & Qureshi, 1968; Chagnon, 1938; Chagnon & Robert, 1962; Downie & Arnett, 1996; Johnson, 1927; Proctor, 1938, 1946; Raizenne, 1975; Ward, 1982; Wilcox, 1965, 1979; Woods, 1924).

In laboratory tests, larvae have eaten leaves of *Vaccinium pensylvanicum* Lam. [*V. angustifolium* Benth.] (Ericaceae) (Ward, 1982; Woods, 1924). However, this is probably not a significant host in nature. Abdullah & Qureshi (1968) listed *V. pensylvanicum* [*V. angustifolium*] as a host, but this was likely based on the previously published laboratory tests. Beyond this, Downie & Arnett (1996) stated that this beetle species occurs on elm [*Ulmus*] (Ulmaceae), but this was certainly an error.

***Tricholochmaea cavicollis* (LeConte).** Although *Prunus pensylvanica* L. f. is the preferred host and possibly the only significant larval host, beetles have also reported from apple [*Malus sylvestris* P. Mill.], *Prunus avium* (L.) L., *P. cerasus* L., *P. mahaleb* L., *P. melanocarpa* (A. Nels.) Rydb., *P. persica* (L.) Batsch, *P. pumila* L., *P. serotina* Ehrh., and plum [*Prunus*] (Rosaceae) (Abdullah & Qureshi, 1968; Andrews, 1923; Anonymous, 1985; Baker, 1972; Carr, 1920; Chagnon, 1938; Chagnon & Robert, 1962; Chittenden, 1899b; Clark, 2000; Crosby, 1916; Cushman, 1916; Davis, 1916; Dillon & Dillon, 1961; Downie & Arnett, 1996; Essig, 1958; Fall, 1924; Felt, 1898b, 1902a, 1907, 1916, 1930; Gossard, 1911; Hamilton, 1895; Hartzell, 1917; Hartzell & Parrott, 1916; Hatch, 1971; Herrick, 1935; Herrick & Matheson, 1916; Hopkins, 1893; Hutson, 1933; Jaques, 1951; Johnson, 1927; Mutchler & Weiss, 1926; Proctor, 1938, 1946; Raizenne, 1975; Sanderson & Pairs, 1931; Smith, 1898, 1900, 1910a; Van Dyke, 1918; Ward, 1982; Westcott, 1946; Wickham, 1897, 1902; Wilcox, 1954, 1965, 1979; Woods, 1924).

Beetles have also been found on *Asclepias purpurascens* L., *A. syriaca* L. (Asclepiadaceae); dahlia

[*Dahlia*] (Asteraceae); *Kalmia angustifolia* L. (Ericaceae); chestnut [*Castanea*] (Fagaceae); red pine [*Pinus resinosa* Aiton] (Pinaceae); timothy [*Phleum*] (Poaceae); *Ranunculus acris* L. (Ranunculaceae); rose [*Rosa*], *Rubus*, *Spiraea latifolia* (Ait.) Borkh. [*S. alba* var. *latifolia* (Ait.) Dippel] (Rosaceae); potato [*Solanum tuberosum* L.] (Solanaceae); and grape [*Vitis*] (Vitaceae) (Cushman, 1916; Dearborn & Donahue, 1993; Hartzell, 1917; Hatch, 1924a; Herrick & Matheson, 1916). However, these associations were probably either incidental or based on misidentification. Van Dyke (1918) reported *T. cavicollis* from *Rhododendron calendulaceum* (Michx.) Torr. (Ericaceae). Later (Van Dyke, 1919), he indicated that this was based on misidentified *Tricholochmaea rufosanguinea* (Say).

***Tricholochmaea decora* (Say).** Hosts are species of *Salix* (Salicaceae), these beetles having been reported from *S. bebbiana* Sarg., *S. cordata* Michx., *S. discolor* Muhl., *S. eriocephala* Michx., *S. gracilis* Anderss., *S. lucida* Muhl., *S. nigra* Marsh., *S. petiolaris* J. E. Sm., and *S. rostrata* Richards. (Abdullah & Qureshi, 1968; Anonymous, 1985; Baker, 1972; Blatchley, 1910; Carr, 1920, 1988; Chagnon, 1917, 1938; Chagnon & Robert, 1962; Chittenden, 1892; Criddle, 1911, 1912; Dearborn & Donahue, 1993; Downie & Arnett, 1996; Essig, 1958; Fall, 1924; Felt, 1907, 1930; Furniss & Carolin, 1977; Goodfellow, 1956; Hatch, 1971; Hatch & Beller, 1932; Herrick, 1935; Ives & Wong, 1988; Johnson, 1927; Johnson & Lyon, 1991; Keen, 1938, 1952; Messina & Root, 1980; Morris, 1914a, 1914b; Mutchler & Weiss, 1926; Packard, 1890; Proctor, 1938, 1946; Raizenne, 1975; Randall, 1838a; Smith, 1900, 1910a; Swaine, 1913; Ulke, 1903; Ward, 1982; Webster, 1881; Wickham, 1902; Wilcox, 1954, 1965, 1979; Woods, 1915, 1924).

This beetle species has also been reported from *Populus* (Salicaceae), including *P. balsamifera* L., *P. deltoides* Marshall, *P. grandidentata* Michx., black poplar [*P. nigra* L.], *P. tacamahacca* C. Mill., and *P. tremuloides* Michx. (Carr, 1988; Chittenden, 1904a; Criddle, 1911, 1912; Dearborn & Donahue, 1993; Essig, 1958; Fall & Cockerell, 1907; Fall, 1924; Furniss & Carolin, 1977; Goodfellow, 1956; Ives & Wong, 1988; Jaques, 1951; Keen, 1938, 1952; Mutchler & Weiss, 1926; Raizenne, 1975; Swaine, 1913; Ward, 1982; Wilcox, 1965, 1979; Woods, 1924).

Beyond Salicaceae, *T. decora* has been reported from alder [*Alnus*], *Betula alba* L. [*B. pubescens* Ehrh.], *Corylus rostrata* Ait. [*C. cornuta* Marsh.] (Betulaceae); *Cornus* (Cornaceae); *Vaccinium pensylvanicum* Lam. [*V. angustifolium* Benth.], *V. canadense* Kalm [*V. myrtilloides* Michx.], *V. vacillans* Kalm ex Torr. (Ericaceae); *Fraxinus nigra* Marsh. (Oleaceae); *Epilobium* (Onagraceae); *Myrica gale* L. (Myricaceae); fir [*Abies*] (Pinaceae); *Polygonum* (Polygonaceae); and plum [*Prunus*] (Rosaceae) (Carr, 1988; Dearborn & Donahue, 1993; Furniss & Carolin, 1977; Knaus, 1906a; MacNay & Creelman, 1958; Woods, 1915). Additionally, Blackman (1918) included *T. decora* in a list of insects collected from the blossoms of either wild blackberry [*Rubus*] or *Spiraea latifolia* (Ait.) Borkh. [*S. alba* var. *latifolia* (Ait.) Dippel] (Rosaceae). Messina & Root (1980) recorded a single specimen of *T. decora* collected by sweeping *Solidago* (Asteraceae), but they rightly considered this capture to be incidental. In fact, all non-salicaceous associations were probably either incidental or based on species other than true *T. decora*.

***Tricholochmaea kalmiae* (Fall).** Hosts of this species have been reported to be *Kalmia angustifolia* L. and *K. latifolia* L. (Ericaceae) (Abdullah & Qureshi, 1968; Chagnon, 1938; Chagnon & Robert, 1962; Downie & Arnett, 1996; Fall, 1924; Johnson, 1927; King, 1993; Mutchler & Weiss, 1926; Proctor, 1938, 1946; Ward, 1982; Wilcox, 1965, 1979; Woods, 1924). Additionally, Dearborn & Donahue (1993) reported *T. kalmiae* from rhodora [*Rhododendron canadense* (L.) Torr.] (Ericaceae).

Beyond Ericaceae, Proctor (1938, 1946) recorded this beetle species from wild mustard [*Brassica* or a similar genus] (Brassicaceae), but this occurrence was probably incidental. Also, Weiss & West (1925) reported *T. kalmiae* collected from under seaweed, but this certainly should not be considered a host.

***Tricholochmaea perplexa* (Fall).** Host plants are reported to be Salicaceae, this species having been recorded from *Populus* and *Salix bebbiana* Sarg. (Abdullah & Qureshi, 1968; Clark, 2000; Dearborn & Donahue, 1993; Fall, 1924; Raizenne, 1975; Ward, 1982; Wilcox, 1965, 1979; Woods, 1924). Under experimental conditions, larvae have fed on *Prunus pensylvanica* L. f. (Rosaceae) and *Populus tremuloides* Michx. (Salicaceae) (Ward, 1982). However, at least *Prunus* is probably not a natural host.

***Tricholochmaea punctipennis* (Mannerheim).** This species is associated with Salicaceae, having been reported from *Populus trichocarpa* J. Torr. & A. Gray ex Hook., *Salix interior* Rowlee [*S. exigua* ssp. *interior* (Rowlee) Cronquist], and *S. lasiolepis* Benth. (Beller & Hatch, 1932; Carr, 1988; Furniss & Carolin, 1977; Hatch, 1971; Raizenne, 1975; Ward, 1982; Wilcox, 1965). It has also been recorded from *Alnus rubra* Bong. and *A. tenuifolia* Nutt. (Betulaceae) (Carr, 1988; Furniss & Carolin, 1977; Raizenne, 1975; Ward, 1982). Additionally, it has been reported from *Medicago sativa* L. (Fabaceae) (Carr, 1988), but this occurrence was almost certainly adventitious.

***Tricholochmaea ribicola* (Brown).** Hosts are species of *Ribes* (Grossulariaceae), including *R. americanum* P. Mill. and *R. vulgare* Lam. [*R. rubrum* L.] (Brown, 1938, 1946; Downie & Arnett, 1996; Ward, 1982; Wilcox, 1965, 1979).

***Tricholochmaea rufosanguinea* (Say).** Hosts are species of *Rhododendron* (Ericaceae), including *R. calendulaceum* (Michx.) Torr., *R. canadense* (L.) Torr., *R. nudiflorum* (L.) Torr., and *R. periclymenoides* (Michx.) Shinnery (Abdullah & Qureshi, 1968; Balsbaugh & Hays, 1972; Cushman, 1916; Downie & Arnett, 1996; Fall, 1924; Hamilton, 1895; King, 1993, 1994; Mutchler & Weiss, 1926; Schwarz, 1890; Smith, 1900, 1910a; Ulke, 1903; Ward, 1982; Wilcox, 1965, 1979; Woods, 1924).

Van Dyke (1918) reported *Tricholochmaea cavicollis* (LeConte) from *Rhododendron calendulaceum*. Later (Van Dyke, 1919), he acknowledged that this was based on misidentified *T. rufosanguinea*. On the other hand, Felt (1907) and Harrington (1883) reported *T. rufosanguinea* from chokecherry [*Prunus virginiana* L.] and wild cherry [*Prunus*] (Rosaceae), but these records were likely based on misidentification of *T. cavicollis*. Beyond this, Walsh (1866b) reported *T. rufosanguinea* from *Ranunculus acris* L. (Ranunculaceae), and he reported *Prasocuris varipes* LeConte, a synonym of *P. vittata* (Olivier), from *Rhododendron nudiflorum*. However, as noted by Cushman (1916), this was almost certainly an error, the hosts of the two beetle species being switched.

***Tricholochmaea sablensis* (Brown).** The host of this species is *Vaccinium macrocarpon* Ait. (Ericaceae) (Brown, 1969; Cavey, 1994; Downie & Arnett, 1996; King, 1993; Ward, 1982; Wilcox, 1979).

***Tricholochmaea spiraeae* (Fall).** Hosts are species of *Spiraea* (Rosaceae), including *S. alba* Du Roi, *S. salicifolia* L., and “*S. verticillata*” (Abdullah & Qureshi, 1968; Cavey, 1994; Chagnon, 1938; Chagnon & Robert, 1962; Clark, 2000; Dearborn & Donahue, 1993; Downie & Arnett, 1996; Fall, 1924; Futuyma & McCafferty, 1990; Mutchler & Weiss, 1926; Proctor, 1938, 1946; Raizenne, 1975; Ward, 1982; Wilcox, 1965, 1979; Woods, 1924).

Although Dearborn & Donahue (1993) reported *T. spiraeae* from willow catkins [*Salix*] (Salicaceae), this plant is not a normal host. Under experimental conditions, *T. spiraeae* has fed on *Alnus incana* (L.) Moench (Betulaceae) (Ward, 1982), but this also is probably not a significant host in nature.

***Tricholochmaea spiraeophila* (Hatch & Beller).** This species has been associated with *Spiraea douglasii* Hook. (Rosaceae) (Beller & Hatch, 1932; Carr, 1988; Hatch, 1971; Hatch & Beller, 1932; Raizenne, 1975; Russell, 1968; Ward, 1982; Wilcox, 1965).

***Tricholochmaea tuberculata* (Say).** Hosts are species of *Salix* (Salicaceae), including *S. cordata* Michx. and *S. interior* Rowlee [*S. exigua* ssp. *interior* (Rowlee) Cronquist] (Anonymous, 1985; Baker, 1972; Chittenden, 1892; Clark, 2000; Doane *et al.*, 1936; Downie, 1957; Downie & Arnett, 1996; Felt, 1907; Futuyma & McCafferty, 1990; Hamilton, 1895; Kirk, 1970; Kirk & Balsbaugh, 1975; Mutchler & Weiss, 1926; Raizenne, 1975; Riley & Enns, 1979; Robertson, 1896a; Smith, 1900, 1910a; Ward, 1982; Wilcox, 1954, 1965, 1979). In previously unpublished field work in Missouri, we have found adults feeding on *S. caroliniana* Michx.

This insect species has also been reported from *Solidago* (Asteraceae) and grass [Poaceae] (Douglass, 1929; Whelan, 1936). However, these occurrences were surely either incidental or based on misidentified beetles.

***Tricholochmaea vaccinii* (Fall).** Hosts have been recorded as *Vaccinium angustifolium* Benth., *V. atrococcum* (Gray) Heller, *V. myrtilloides* Michx., and *V. vacillans* Kalm *ex* Torr. (Ericaceae) (Abdullah & Qureshi, 1968; Brown, 1969; Cavey, 1994; Chagnon, 1938; Chagnon & Robert, 1962; Clark, 2000; Downie & Arnett, 1996; Fall, 1924; King, 1993; Phipps, 1930; Ward, 1982; Wilcox, 1965, 1979; Woods, 1924). In laboratory tests, this beetle species has also been reported to feed on *V. corymbosum* L. (Ward, 1982; Woods, 1924).

Woods (1915) reported “*Galerucella decora* Say” from *Vaccinium pensylvanicum* Lam. [*V. angustifolium*], *V. canadense* Kalm [*V. myrtilloides*], and *V. vacillans*. These associations were almost certainly based on populations of *T. vaccinii*.

Beyond this, *T. vaccinii* has also been recorded in association with willow [*Salix*] (Salicaceae). However, this association was likely either incidental or based on misidentified insects. Additionally, Proctor (1946) reported material swept from fern [Pteridophyta], but this should not be interpreted as a host association. Judd (1959) recorded an insect, questionably identified as *T. vaccinii*, from *Sarracenia purpurea* L. (Sarracenaceae), but it was properly noted that the insect in this instance was prey rather than an herbivore.

***Tricholochmaea* spp.** In his unpublished thesis, Ward (1982) recognized new species of *Tricholochmaea* that were associated with *Kalmia angustifolia* L. (Ericaceae) and *Salix petiolaris* J. E. Sm. (Salicaceae).

***Trirhabda adela* Blake.** Normal hosts are apparently species of *Helianthus* (Asteraceae), including *H. tuberosus* L. (Hogue, 1970; Palmer, 1986). In previously unpublished field work in central Texas, we have collected a series of *T. adela* from *H. maximiliani* Schrad. Andrew H. Williams (pers. comm.) has found adults feeding on *H. grosseserratus* Martens and *H. pauciflorus* Nutt.

This beetle species has also been reported from *Cirsium*, *Solidago altissima* L., and *S. canadensis* L. (Asteraceae) (Blake, 1931a; Carr, 1988; Clark, 2000; Downie & Arnett, 1996; Reid & Harmsen, 1975; Riley & Enns, 1979; Swigonova & Kjer, 2001; Wilcox, 1954, 1965, 1979). However, Hogue (1970) stated that he

was unsuccessful in collecting beetles from these plants.

***Trirhabda attenuata* (Say).** This species has been reported from *Artemisia cana* Pursh, *A. filifolia* J. Torr., *A. ludoviciana* Nutt., *A. tripartita* Rydb., *Chrysothamnus*, and *Solidago* (Asteraceae) (Abdullah & Qureshi, 1968; Blake, 1931b; Böving, 1929; Carr, 1920; Fisser & Lavigne, 1961; Hewitt *et al.*, 1974; Hogue, 1970; Jensen, 1977; Lawson, 1991; Palmer, 1986; Wilcox, 1965).

***Trirhabda bacharidis* (Weber).** In nature, this species feeds on *Baccharis halimifolia* L. and *B. neglecta* Britt. (Asteraceae) (Balsbaugh & Hays, 1972; Blake, 1931a; Boldt, 1989a, 1989b; Boldt & Robbins, 1987; Dillon & Dillon, 1961; Downie & Arnett, 1996; Fabricius, 1801; Hogue, 1970; Johnson & Lyon, 1991; Julien & Griffiths, 1998; Kirk, 1969, 1970; Kraft & Denno, 1982; Löding, 1945; Palmer, 1986, 1987; Palmer & Bennett, 1988; Palmer & Haseler, 1992; Peck & Thomas, 1998; Swigonova & Duckett, 1998; Swigonova & Kjer, 2001; White, 1983; Wilcox, 1965, 1979; Wisdom, 1985). In previously unpublished field work in east-central Texas, we have collected adults from plants that were likely hybrids of *B. halimifolia* and *B. salicina* J. Torr. & A. Gray.

Under experimental conditions, beetles have developed normally on *B. pilularis* DC. and *B. sarothroides* A. Gray (Boldt, 1989a). However, both plants naturally occur only outside of the range of *T. bacharidis* and therefore are not available hosts.

This beetle species has also been reported from *Pinus* (Pinaceae) (Balsbaugh & Hays, 1972; Kirk, 1970). However, Balsbaugh & Hays (1972) rightly discounted such associations. Specimens have also been labeled from *Melilotus alba* Medik. (Fabaceae) and *Myrica cerifera* L. (Myricaceae) (Palmer & Haseler, 1992), but these occurrences were surely incidental. In Nicaragua, *T. bacharidis* has been recorded from *Coffea* (Rubiaceae) (Maes & Staines, 1991). However, Central America is beyond the generally recognized range of this beetle species, and the identification is doubtful. If the beetle identification is correct, the association with *Coffea* was certainly incidental.

Although the *Galleruca tomentosa* Linnaeus is likely a species of *Galerucella* or *Ophraella*, some workers have considered it to be synonymous with *T. bacharidis*. Not surprisingly, “*Trirhabda tomentosa*” has been reported from *B. halimifolia* (Abdullah & Qureshi, 1968). Associations have also been recorded with aster [*Aster* or a similar genus], *Solidago* (Asteraceae); grass [Poaceae]; and willow [*Salix*] (Salicaceae) (Andrews, 1923; Beutenmüller, 1890a, 1890b; Smith, 1900, 1910a; Whelan, 1936), but these reports were surely based on either incidental occurrences or species other than *T. bacharidis*. Beyond the associations mentioned above, Rogers (1988) listed “*Trirhabda* nr. *bacharidis* (Weber)” from *Helianthus pumilus* Nuttall (Asteraceae).

***Trirhabda borealis* Blake.** Hosts are species of *Solidago* (Asteraceae), including *S. altissima* L., *S. canadensis* L., *S. gigantea* Ait., *S. juncea* Ait., *S. missouriensis* Nutt., and *S. rugosa* P. Mill. (Blake, 1931b; Boldt, 1989a; Downie & Arnett, 1996; Hogue, 1970, 1971; Kirk & Balsbaugh, 1975; Maddox & Root, 1987, 1990; McBrien *et al.*, 1983; Messina, 1981, 1982a, 1982b, 1982c, 1983; Messina & Root, 1980; Meyer, 1993; Meyer & Root, 1993; Palmer, 1986; Redak *et al.*, 1995; Reid & Harmsen, 1975; Riley & Enns, 1979; Sholes, 1981; Swigonova & Kjer, 2001; Wilcox, 1965, 1979). Beetles have also been found, although in comparatively low numbers, on the closely related plant *Euthamia graminifolia* (L.) Nutt. (Asteraceae) (Messina, 1982c, 1983).

Beyond Asteraceae, Trippel (1934) recorded *T. borealis* from grass [Poaceae], but this occurrence was surely incidental. Boiteau (1983a) included this beetle species in a list of insects collected from potato fields [*Solanum tuberosum* L.] (Solanaceae), but this should not be interpreted as a host association.

***Trirhabda caduca* Horn.** This species, sometimes cited as the synonym *T. gurneyi* Blake, has been associated with *Hymenoclea salsola* J. Torr. & A. Gray and *Franseria dumosa* A. Gray (Asteraceae) (Blake, 1951; Hogue, 1970; Palmer, 1986; Swigonova & Kjer, 2001; Wilcox, 1965). Additionally, in previously unpublished observations, we have associated beetles in California with *Baccharis* (Asteraceae).

***Trirhabda canadensis* (Kirby).** Hosts are Asteraceae, this species having been reported from *Artemisia*, *Senecio serra* Hook., *Solidago altissima* L., *S. canadensis* L., *S. gigantea* Ait., *S. missouriensis* Nutt., and *S. rugosa* P. Mill. (Abdullah & Qureshi, 1968; Balduf, 1929; Balsbaugh & Hays, 1972; Beller & Hatch, 1932; Blake, 1931b; Blatchley, 1910; Boldt, 1989a; Böving, 1929; D. G. Brown, 1994; W. D. Brown, 1993; Brown & Weis, 1995; Capek, 1971; Carr, 1988; Chagnon, 1917; Dillon & Dillon, 1961; Downie & Arnett, 1996; Essig, 1958; Hamilton, 1895; Hatch, 1924b; Hogue, 1970; Horning & Barr, 1970; Kirk & Balsbaugh, 1975; Knowlton, 1957a; Lintner, 1888; Marcovitch, 1916; McBrien *et al.*, 1983; Morris, 1914a, 1914b; Morrow *et al.*, 1989; Palmer, 1986; Redak *et al.*, 1995; Reid & Harmsen, 1975; Riley & Enns, 1979; Russell, 1968; Sholes, 1981; Sisson & Fronk, 1968; Smith, 1900, 1910a; Swigonova & Duckett, 1998; Swigonova & Kjer, 2001; Wickham, 1902; Wilcox, 1954, 1965, 1979). In experimental tests, *T. canadensis* has fed abundantly on *Symphytotrichum laeve* (L.) A. & D. Löve and has nibbled on *Dendranthema indicum* (L.) Des Moul. (Capek, 1971). However, in spite of records from other asteraceous genera, *Solidago* is the usual food plant.

This beetle species has also been reported from prickly ash [*Zanthoxylum*] (Rutaceae) (Douglass, 1929), but this record was likely based on misidentified specimens of *Derspidea brevicollis* (LeConte). Additionally, *T. canadensis* has been reported from sumac [*Rhus*] (Anacardiaceae), *Melilotus alba* Medik. (Fabaceae), *Quercus* (Fagaceae), grass [Poaceae], and *Salix* (Salicaceae) (Carr, 1988; Douglass, 1929; Stewart, 1930; Tanner, 1928; Whelan, 1936), but these occurrences were surely incidental. Boiteau (1983a) included *T. canadensis* in a list of insects collected from potato fields [*Solanum tuberosum* L.] (Solanaceae), but this should not be interpreted as a host association.

***Trirhabda confusa* Blake.** This species has been associated with *Artemisia*, *Ericameria nauseosa* (Pall. ex Pursh) Nesom & Baird, and *Haplopappus linearifolius* DC. (Asteraceae) (Blake, 1931b; Boldt, 1989a; Carr, 1988; Hogue, 1970; Palmer, 1986; Wilcox, 1965).

***Trirhabda convergens* LeConte.** This species, sometimes cited as the synonym *T. viridicyanea* Blake, is normally associated with *Solidago* (Asteraceae), with specific records from *S. canadensis* L. and *S. missouriensis* Nutt. (Blake, 1931b; Carr, 1988; Downie & Arnett, 1996; Hogue, 1970, 1971; Palmer, 1986; Swigonova & Kjer, 2001; Wilcox, 1965, 1979).

Additionally, *T. convergens* has been reported from *Bigelovia* [*Bigelowia*], *Ericameria nauseosa* (Pall. ex Pursh) Nesom & Baird, *Gutierrezia sarothrae* (Pursh) N. L. Britt. & Rusby, and *Haplopappus* (Asteraceae) (Baker, 1895; Carr, 1988; Kumar *et al.*, 1976; Lavigne, 1976; Wickham, 1902). However, these plants may not be normal hosts, and some of the associations were possibly even based on misidentified insects. Beyond these reports, Story *et al.* (1985) indicated that “*Trirhabda* prob. *convergens*” occurs rarely on *Cirsium arvense* (L.) Scop. (Asteraceae).

In previously unpublished investigations, we have collected a large series of *T. convergens* from *Symphyotrichum ascendens* (Lindl.) Nesom (Asteraceae) in Wyoming. We have also seen specimens labeled from Saskatchewan in association with *S. ericoides* (L.) Nesom.

This beetle species has also been reported defoliating *Zanthoxylum* (Rutaceae) (Douglass, 1929; Popenoe, 1877). However, this association was almost certainly based on misidentified *Derspidea brevicollis* (LeConte).

***Trirhabda diducta* Horn.** Recorded hosts are species of *Eriodictyon* (Hydrophyllaceae), including *E. californicum* (Hook. & Arn.) J. Torr., *E. crassifolium* Benth., and *E. tomentosum* Benth. (Blake, 1931b; Carr, 1988; Hatch, 1971; Hogue, 1970; N. D. Johnson *et al.*, 1994, 1985; Moore, 1937; Palmer, 1986; Swigonova & Kjer, 2001; Wilcox, 1965).

***Trirhabda eriodictyonis* Fall.** Hosts are species of *Eriodictyon* (Hydrophyllaceae), including *E. angustifolium* Nutt., *E. californicum* (Hook. & Arn.) J. Torr., and *E. crassifolium* Benth. (Blake, 1931b; Carr, 1988; Fall, 1907; Hogue, 1970; Moore, 1937; Palmer, 1986; Swigonova & Kjer, 2001; Wilcox, 1965).

***Trirhabda flavolimbata* (Mannerheim).** The preferred food plant is reported to be *Baccharis pilularis* DC. (Asteraceae) (Blake, 1931b; Boldt, 1989b; Carr, 1988; Hogue, 1970, 1971; Johnson & Lyon, 1991; Moore, 1937; Palmer, 1986; Swigonova & Kjer, 2001; Tilden, 1951, 1953; Wilcox, 1965).

This beetle species has also been reported from *Artemisia californica* Less., *A. tridentata* Nutt., *Senecio*, *Solidago*, *Symphyotrichum chilensis* (Nees) Nesom (Asteraceae); *Salicornia* (Chenopodiaceae); *Eriodictyon* (Hydrophyllaceae); and *Salvia* (Lamiaceae) (Andrews, 1923; Blake, 1931b; Carr, 1988; Essig, 1958; Fall, 1901; Hogue, 1970; Horn, 1893; Johnson & Lyon, 1991; Moore, 1937; Palmer, 1986; Tilden, 1953; Wickham, 1902; Wilcox, 1965). However, at least most of these records were probably based on either incidental occurrences or misidentification.

Under experimental conditions, *T. flavolimbata* has fed on numerous plants, including *Aster alpinus* L., *Baccharis halimifolia* L., *B. neglecta* Britt., *Gutierrezia microcephala* (DC.) A. Gray, *G. sarothrae* (Pursh) N. L. Britt. & Rusby, *Haplopappus tenuisectus* (Greene) Blake ex L. D. Benson, *Isocoma wrightii* (A. Gray) Rydb., *Solidago altissima* L., and *Symphyotrichum novae-angliae* (L.) Nesom (Asteraceae) (Palmer, 1986). Of the plants tested, only *B. halimifolia* and *B. neglecta* were fed upon extensively, beetles merely nibbling on most of the other plants.

***Trirhabda geminata* Horn.** Recorded hosts include *Encelia californica* Nutt., *E. farinosa* A. Gray, and *E. virginensis* A. Nels. [*E. frutescens* var. *virginensis* (A. Nelson) S. F. Blake] (Asteraceae) (Bethke & Redak, 1996a, 1996b; Blake, 1931b, 1951; Hogue, 1970; O'Brien & Atsatt, 1982; Paine *et al.*, 1993; Palmer, 1986; Redak *et al.*, 1995; Swigonova & Kjer, 2001; Wilcox, 1965; Wisdom, 1985).

Blake (1931b) reported the host of *Trirhabda nigrohumeralis* Schaeffer to be *Brickellia* (Asteraceae). Later (Blake, 1951), she noted that her earlier concept of this name was based, at least in part, on misidentified specimens of *T. schwarzi* Blake, and she placed true *T. nigrohumeralis* in synonymy with *T. geminata*. Even so, the material she associated with *Brickellia* in 1931 may have been authentic *T. geminata* rather than *T. schwarzi*. In her 1951 publication, she clearly associated *T. geminata* with *Brickellia*. Brisley (1925) also reported the synonym *T. nigrohumeralis* feeding on *Brickellia*. In previously unpublished field work in New Mexico, we have collected a small series of *T. geminata* (eight adults) from *B. laciniata* Gray.

Beyond these records, *Trirhabda geminata* has been recorded from *Bahia*, wild sunflower [*Helianthus*], *Haplopappus ericoides* (Less.) Hook. & Arn., lettuce [*Lactuca*], and guayule [*Parthenium argentatum* A. Gray] (Asteraceae) (Blake, 1931b, 1951; Carr, 1988; Moore, 1937; Wilcox, 1965). Additionally, this beetle species has also been reported infesting carrot [*Daucus carota* L.] (Apiaceae) (Anonymous, 1967l, 1968h), but this plant is almost certainly not a normal host.

***Trirhabda labrata* Fall.** The host is reported to be *Haplopappus ericoides* (Less.) Hook. & Arn. (Asteraceae) (Blake, 1931b; Hogue, 1970; Palmer, 1986; Wilcox, 1965). Also, Hogue (1970) reported material collected from *Baccharis pilularis* DC. (Asteraceae), but he apparently discounted this association. Beyond this, specimens have been collected from *Adenostoma fasciculatum* Hook & Arn. (Rosaceae) (Blake, 1931b; Hogue, 1970; Wilcox, 1965), but this is surely not a normal food plant.

***Trirhabda lewisii* Crotch.** Hosts are reported to be *Chrysothamnus viscidiflorus* (Hook.) Nutt. and *Ericameria nauseosa* (Pall. ex Pursh) Nesom & Baird (Blake, 1931b; Boldt, 1989a; Cranshaw *et al.*, 2000; Furniss & Barr, 1975; Hogue, 1970, 1971; Horning & Barr, 1970; Palmer, 1986; Russell, 1968; Swigonova & Kjer, 2001; Wilcox, 1965). Beyond this, Wickham (1902) reported *T. lewisii* from *Bigelovia* [*Bigelovia*] (Asteraceae), but this may have been based on misidentified beetles.

***Trirhabda luteocincta* (LeConte).** This species has been reported from *Artemisia californica* Less., *Grindelia*, *Haplopappus palmeri* A. Gray, *H. squarrosus* Hook. & Arn., *H. venetus* (Kunth in H. B. K.) Blake (Asteraceae); *Eriogonum* (Polygonaceae); *Adenostoma fasciculatum* Hook & Arn. (Rosaceae); and *Larrea tridentata* (Sesse & Moçino ex DC.) Coville (Zygophyllaceae) (Blaisdell, 1892; Blake, 1931b; Carr, 1988; Essig, 1958; Fall, 1901; Hogue, 1970; Jaques, 1951; LeConte, 1865; Moore, 1937; O'Brien & Atsatt, 1982; Palmer, 1986; Sweet, 1930; Swigonova & Kjer, 2001; Wilcox, 1965). Hogue (1970) indicated that *A. californica* is the normal host, but O'Brien & Atsatt (1982) noted that this was incorrect and that species of *Haplopappus* are normal food plants instead. It is extremely doubtful that the non-asteraceous plants are fed upon regularly.

***Trirhabda manisi* Hogue.** The host of this species is reported to be *Ericameria nauseosa* (Pall. ex Pursh) Nesom & Baird (Asteraceae) (Hogue, 1970, 1971; Palmer, 1986).

***Trirhabda nigriventris* Blake.** The host is reported to be *Artemisia tridentata* Nutt. (Asteraceae) (Blake, 1951; Hogue, 1970; Palmer, 1986; Wilcox, 1965).

***Trirhabda nitidicollis* LeConte.** Hosts have been reported as *Acamptopappus sphaerocephalus* (W. H. Harv. & A. Gray) A. Gray, *Artemisia tridentata* Nutt., *Chrysothamnus viscidiflorus* (Hook.) Nutt., *Ericameria nauseosa* (Pall. ex Pursh) Nesom & Baird, *Gutierrezia microcephala* (DC.) A. Gray, and *G. sarothrae* (Pursh) N. L. Britt. & Rusby (Asteraceae) (Abdullah & Qureshi, 1968; Blake, 1931b; Boldt, 1989a; Carr, 1988; Cranshaw *et al.*, 2000; Dalen *et al.*, 1986; Eckberg & Cranshaw, 1994; Fisser & Lavigne, 1961; Furniss & Barr, 1975; Furniss & Carolin, 1977; Hewitt *et al.*, 1974; Hogue, 1970, 1971; Horning & Barr, 1970; Knowlton, 1954b; Massey & Pierce, 1960; Palmer, 1986; Swigonova & Kjer, 2001; Townsend, 1895; Wilcox, 1965). Additionally, Goeden & Ricker (1986a) associated larvae, pupae, and adults of "*Trirhabda* sp. nr. *nitidicollis*" with *Hymenoclea salsola* J. Torr. & A. Gray (Asteraceae).

In previously unpublished investigations, we have examined a small series of *T. nitidicollis* (four specimens) labeled from Colorado in association with *Baccharis* (Asteraceae). In a personal communication from the collector, Robert A. Androw, he has stated that the insects were defoliating this plant.

Horning & Barr (1970) reported *T. nitidicollis* from *Pinus flexilis* E. James (Pinaceae). However, this occurrence was almost certainly incidental.

***Trirhabda pilosa* Blake.** This species feeds on *Artemisia tridentata* Nutt. (Asteraceae) (Anonymous, 1956a; Arnott, 1957; Banham, 1961; Blake, 1931b; Carr, 1988; Fisser & Lavigne, 1961; Furniss & Barr, 1975; Furniss & Carolin, 1977; Halford *et al.*, 1973a, 1973b; Hewitt *et al.*, 1974; Hogue, 1970, 1971; Huf-faker, 1959; Johnson & Lyon, 1991; Palmer, 1986; Pringle, 1960; Russell, 1968; Swigonova & Kjer, 2001; Wilcox, 1965). Also, in previously unpublished field work in Wyoming, we have collected a large series from *Artemisia cana* Pursh.

Beyond this, Hogue (1970) reported material labeled from *Arnica* (Asteraceae). However, he apparently discounted this occurrence as being adventitious.

***Trirhabda pubicollis* Blake.** The host is reported to be *Parthenium incanum* Kunth in H. B. K. (Asteraceae) (Hogue, 1970; Palmer, 1986). Stone & Fries (1986) stated that this beetle species also occurs rarely on *P. argentatum* A. Gray.

Hogue (1970) listed specimens of *T. pubicollis* collected from *Larrea tridentata* (Sesse & Moçino ex DC.) Coville (Zygophyllaceae). However, he apparently discounted this association.

***Trirhabda schwarzi* Blake.** The host is reported to be *Brickellia californica* (J. Torr. & A. Gray) A. Gray (Asteraceae) (Hogue, 1970; Palmer, 1986; Wilcox, 1965). In previously unpublished field work in western Texas, we have collected adults from *B. laciniata* Gray.

***Trirhabda sericotrachyla* Blake.** The host of this species is *Artemisia californica* Less. (Asteraceae) (Blake, 1931b; Carr, 1988; Hogue, 1970; Moore, 1937; O'Brien & Atsatt, 1982; Palmer, 1986; Redak *et al.*, 1995; Swigonova & Kjer, 2001; Wilcox, 1965; Wisdom, 1985).

***Trirhabda virgata* LeConte.** Hosts are species of *Solidago* (Asteraceae), associations having been reported with *S. altissima* L., *S. canadensis* L., *S. gigantea* Ait., *S. juncea* Ait., *S. missouriensis* Nutt., *S. rugosa* P. Mill., and *S. sempervirens* L. (Abdullah & Qureshi, 1968; Balsbaugh & Hays, 1972; Blake, 1931b; Boldt, 1989a; Böving, 1929; Cappuccino, 1991b; Chagnon, 1917; Dearborn & Donahue, 1993; Dillon & Dillon, 1961; Downie & Arnett, 1996; Hendrickson, 1930b; Herzig, 1995; Herzig & Root, 1996; Hogue, 1970; Johnson, 1927; Jolivet & Verma, 2002; Maddox & Root, 1987, 1990; McBrien *et al.*, 1983; Messina, 1981, 1982a, 1982b, 1982c, 1983; Messina & Root, 1980; Meyer, 1993; Meyer & Root, 1993; Meyer & Whitlow, 1992; Palmer, 1986; Proctor, 1938, 1946; Redak *et al.*, 1995; Reid & Harmsen, 1975; Riley & Enns, 1979; Root, 1996; Root & Cappuccino, 1992; Sholes, 1981; Swigonova & Kjer, 2001; Uriarte, 2000; Weiss & West, 1925; Wilcox, 1954, 1965, 1979). This beetle species has also been found, although in comparatively low numbers, on the closely related plant *Euthamia graminifolia* (L.) Nutt. (Asteraceae) (Messina, 1982c, 1983; Wilcox, 1979). Additionally, it has been reported from *Aster*, *Helianthus*, and *Iva frutescens* L. (Asteraceae) (Hendrickson, 1930b; Herzig, 1995; Weiss & West, 1925).

Beyond Asteraceae, *T. virgata* has been reported from *Asclepias syriaca* L. (Asclepiadaceae) and larch [*Larix*] (Pinaceae) (Dailey *et al.*, 1978; Dearborn & Donahue, 1993). Additionally, Blackman (1918) included *T. virgata* in a list of insects collected from the blossoms of either wild blackberry [*Rubus*] or *Spiraea latifolia* (Ait.) Borkh. [*S. alba* var. *latifolia* (Ait.) Dippel] (Rosaceae). Surely, these non-asteraceous plants are not normal hosts.

***Trirhabda* sp.** In an unpublished Ph.D. dissertation, Hogue (1970) reported on a new species that is associated with *Haplopappus pinifolius* A. Gray (Asteraceae). Palmer (1986) later listed the still unvalidated manuscript name, *T. barri* Hogue, from *Haplopappus*.

***Tymnes chrysis* (Olivier).** This species has been recorded from locust foliage [*Robinia* or a similar genus] (Fabaceae) (Kirk, 1970). In previously unpublished investigations in North Carolina, we have collected series by beating *Robinia pseudoacacia* L.

***Tymnes metasternalis* (Crotch).** This species has been reported from hazel [*Corylus*] (Betulaceae); *Juniperus* (Cupressaceae); *Quercus imbricaria* Michx. (Fagaceae); shagbark hickory [*Carya ovata* (Mill.) K. Koch], black walnut [*Juglans nigra* L.] (Juglandaceae); *Crataegus* (Rosaceae); and wild grape [*Vitis*] (Vitaceae) (Downie & Arnett, 1996; Felt, 1907; Hamilton, 1895; MacAloney, 1950; Riley & Enns, 1979; Schaeffer, 1928a; Schultz, 1970; Smith, 1900, 1910a; Wilcox, 1954).

***Tymnes oregonensis* (Crotch).** This species has been recorded from *Cupressus goveniana* Gord., *C. sargentii* Jeps., and *Libocedrus decurrens* J. Torr. (Cupressaceae) (Carr, 1988; Riley *et al.*, 2002; Schultz, 1970). It has also been reported from *Quercus* (Fagaceae) and *Eriodictyon* (Hydrophyllaceae) (Schultz, 1970). In previously unpublished investigations, we have seen *T. oregonensis* labeled from California in association with manzanita [*Arctostaphylos*] (Ericaceae) and *Ceanothus* (Rhamnaceae), but these may not be normal food plants.

***Tymnes tricolor* (Fabricius).** This species has been recorded from ironweed [*Vernonia*] (Asteraceae); hornbeam [*Carpinus caroliniana* Walt.], hazel [*Corylus*], *Ostrya virginiana* (Mill.) K. Koch (Betulaceae); chestnut [*Castanea*], *Quercus* (Fagaceae); *Carya illinoensis* (Wang.) K. Koch, hickory [*Carya*], *Juglans* (Juglandaceae); tulip tree [*Liriodendron tulipifera* L.] (Magnoliaceae); blackberry [*Rubus*] (Rosaceae); and wild grape [*Vitis*] (Vitaceae) (Anonymous, 1985; Baker, 1972; Beutenmüller, 1890a; Blatchley, 1910; Burke *et al.*, 1974; Downie & Arnett, 1996; Fabricius, 1801; Felt, 1907; Hamilton, 1895; MacAloney, 1950; Smith, 1900, 1910a; Webster, 1893a; Wilcox, 1954). In previously unpublished field work, we have collected a series of adults from *Cornus florida* L. (Cornaceae) in Arkansas.

***Tymnes violaceus* Horn.** Felt (1907) and Hamilton (1895) reported associations with hickory [*Carya*] (Juglandaceae). Clark (2000) recorded material labeled as feeding on *Corylus americana* Walt. (Betulaceae).

***Typophorus nigratus* (Fabricius).** This species, often cited as *T. viridicyaneus* (Crotch) which is now considered a subspecies of *T. nigratus*, has been associated with *Calystegia sepium* (L.) R. Br., *Convolvulus arvensis* L., *Ipomoea batatas* (L.) Lam., *I. pandurata* (L.) G. F. W. Mey., and *I. pes-caprae* (L.) R. Br. (Convolvulaceae) (Balsbaugh & Hays, 1972; Bechyné, 1997a, 1997b; Blatchley, 1910, 1924a; Brannon, 1938; Chittenden, 1925a; Clark, 2000; Cuthbert & Reid, 1965; Davidson & Lyon, 1987; Domínguez & Carrillo, 1976; Douglass, 1929; Downie, 1957; Downie & Arnett, 1996; Dozier, 1918; Hungerford, 1945; King & Saunder, 1984; Kirk, 1969, 1970; Jolivet, 1987b; Jolivet & Verma, 2002; Maes & Staines, 1991; Metcalf & Metcalf, 1993; Mohyuddin, 1969a; Parker, 1946; Peairs & Davidson, 1939; Peterson, 1960; Popenoe, 1877; Riley & Enns, 1979; Riley *et al.*, 2002; Santoro, *et al.*, 1979; Smith, 1910a, 1938, 1950; Wilcox, 1954, 1979). In previously unpublished investigations, we have identified adults of this beetle species that were collected

by Thomas O. Robbins from *Ipomoea cordatotriloba* Dennst. in central Texas.

This beetle species has also been reported from *Cordia ferruginea* Kunth in H. B. K. (Boraginaceae); *Arctostaphylos patula* E. L. Greene (Ericaceae); *Acacia farnesiana* (L.) Willd. [likely *A. smallii* Isley, rather than true *A. farnesiana*], *Glycine max* (L.) Merr., *Phaseolus vulgaris* L., *Pithecellobium dulce* (Roxb.) Benth., *Robinia*, wisteria [*Wisteria*] (Fabaceae); *Persea americana* Mill. (Lauraceae); *Gossypium hirsutum* L. (Malvaceae); *Ligustrum* (Oleaceae); *Sesamum indicum* L. (Pedaliaceae); pangola [*Digitaria eriantha* Steud.], *Oryza sativa* L., *Panicum maximum* Jacq., *Saccharum officinarum* L., *Zea mays* L. (Poaceae); dock [*Rumex*] (Polygonaceae); peach [*Prunus persica* (L.) Batsch] (Rosaceae); *Coffea* (Rubiaceae); *Citrus aurantium* L. (Rutaceae); *Lycopersicon*, *Nicotiana tabacum* L., and *Solanum tuberosum* L. (Solanaceae) (Bechyné, 1997a, 1997b; Bickensstaff & Huggans, 1962; Domínguez & Carrillo, 1976; Hutchins, 1953; Jackman, 1979c; Kirk, 1970; Maes & Staines, 1991; Moldenke, 1971; Moreno & Bibby, 1943; Parker, 1946; Passoa, 1983; Santoro, *et al.*, 1979; Valenti *et al.*, 1997; Westcott, 1946). However, in spite of some mention of plant injury, these occurrences were likely incidental, or they were based on misidentified insects.

***Typophorus pumilus* (LeConte).** This species was originally described based on material thought to be from Kansas (LeConte, 1859). However, the reported origin of the material was probably in error, this species apparently not occurring in the United States. Although Wolcott & Montgomery (1933) reported *T. pumilus* from alder [*Alnus*] (Betulaceae) and Bruner (1895) listed it from wild grape [*Vitis*] (Vitaceae), these records were almost certainly based on misidentified species of *Paria*.

***Urodera crucifera* Lacordaire.** This species has been reported feeding in Arizona on *Mimosa biuncifera* Benth. (Fabaceae) (Brisley, 1925). However, this report was likely based on misidentified specimens of *Urodera dilaticollis* Jacoby. Moldenke (1970) stated that *U. crucifera* is associated with Caesalpinaceae and Mimosaceae (Fabaceae).

***Urodera dilaticollis* Jacoby.** Hespeneheide (1996) indicated that the adult host is *Quercus* (Fagaceae). Beyond this, Brisley's (1925) report of "*Urodera crucifera* Lac." feeding in Arizona on *Mimosa biuncifera* Benth. (Fabaceae) was probably based on misidentified specimens of *U. dilaticollis*. Moldenke (1970) stated that adults of *U. dilaticollis* are associated with Mimosaceae (Fabaceae).

***Uroplata girardi* Pic.** This South American species, intentionally introduced into Hawaii, feeds on *Lantana camara* L. (Verbenaceae) (Clausen, 1978; Gutierrez & Forno, 1989; Harley, 1969; Hawkeswood, 1988; Hill & Hulley, 1995; Jolivet, 1989c, 2001; Jolivet & Hawkeswood, 1995; Julien & Griffiths, 1998; Krauss, 1962, 1964; Uhmman, 1953; White, 1981). Light feeding has also been observed on sesame [*Sesamum indicum* L.] (Pedaliaceae) (Harley, 1969).

Under experimental conditions, at least traces of adult feeding occurred on sesame [*Sesamum indicum*] (Pedaliaceae); *Clerodendrum thomsoniae* Balf., *Duranta repens* L. [*D. erecta* L.], *Lantana montevidensis* (Spreng.) Briq., *L. trifolia* L., *Lippia alba* (Mill.) N. E. Brown, *L. micromera* Schau., and *Tectona grandis* L. f. (Verbenaceae) (Gutierrez & Forno, 1989; Harley, 1969).

***Xanthogaleruca luteola* (Müller).** These insects, including Palearctic populations, are well known for their often pestiferous relationship with species of *Ulmus* (Ulmaceae), having been reported from *U. alata* Michx., *U. americana* L., *U. canescens* Melville, *U. carpinifolia* Gleditsch, "*Ulmus flava*," *U. glabra* Huds., *U. effusa* Willd. [*U. laevis* Pall.], *U. minor* Mill., *U. parvifolia* Jacq., *U. pumila* L., *U. rubra* Muhl., *U. suberosa* Moench, *U. thomasi* Sarg., and *U. wilsoniana* Schneid. (Abdullah & Qureshi, 1968; Anderson, 1960; Anonymous, 1953a, 1957a, 1960a, 1960q, 1985, 1989, 2001b; Baerg, 1949; Baker, 1972; Balsbaugh & Hays, 1972; Becker, 1979; Beller & Hatch, 1932; Beutenmüller, 1890a; Bibby, 1961; Blatchley, 1910; Böving, 1929; Bray & Triplehorn, 1953; Brewer, 1973; Britton, 1907, 1924, 1932; Britton & Zappe, 1927; Bromley, 1950; Burgess, 1905; Carr, 1988; Chittenden, 1902b, 1904b; Clark, 2000; Clarkson, 1884; Clausen, 1978; Collins, 1939; Cranshaw *et al.*, 2000; Davidson & Lyon, 1987; Dearborn & Donahue, 1993; Dillon & Dillon, 1961; Doane *et al.*, 1936; Downie & White, 1967; Dreistadt & Dahlsten, 1989; Edwards, 1949; English, 1968; Essig, 1958; Felt, 1898a, 1898b, 1900, 1901, 1902a, 1902b, 1903, 1905, 1909, 1911, 1912a, 1912a, 1930; Fernald, 1901; Furniss & Carolin, 1977; Gambrell, 1937; Goidanich, 1956; Gressitt & Kimoto, 1963; Hall, 1986; Hall & Townsend, 1987; Hall & Young, 1986; Hall *et al.*, 1987, 1988; Hamilton, 1894b; Harrington, 1883; Hatch, 1971; Herrick, 1910, 1913, 1935; Hicks & Mudrick, 1994; Hilker & Meiners, 1999; Hirschenberger, 1962; Hoffman, 1942; Hogue, 1993; Hopkins, 1897a; Horn, 1893; Houser, 1908, 1918; Howard, 1896, 1899b, 1917; Howard & Smith, 1895; Jaques, 1951; Johnson & Lyon, 1991; Jolivet, 2001; Jolivet & Hawkeswood, 1995; Jolivet & Verma, 2002; Karren, 1986b; Keen, 1938; Kerr, 1959; Kirk, 1969; Klots & Klots, 1972; Knowlton, 1939, 1952, 1957b; Kotinsky, 1921; Kraft & Denno, 1982; Lawson, 1991; Lemen, 1981; Lintner, 1888; Little, 1972; Lopatin, 1984; Luck, & Scriven, 1976, 1979; Lugger, 1899; MacAloney, 1950; MacAloney & Ewan, 1964; Marlatt, 1908; Matheson, 1944; McDaniel, 1933; McDowell, 1955, 1960; McQueen, 1963f; Meiners & Hilker, 2003; Metcalf & Metcalf, 1993; Miller & Ware, 1994, 1997, 1999; Milliron, 1958; Mohr, 1966; Morris, 1914a, 1914b; Mutchler & Weiss, 1926; Packard, 1890; Papp, 1984; Parks,

1936; Perkins, 1890; Peterson, 1960; Petitpierre *et al.*, 2000; Pirone, 1970; Porter, 1955; Portman & Manis, 1954; Puttler & Long, 1983; Raizenne, 1975; Readio, 1936, 1940; Riley, 1892; Riley & Enns, 1979; Riley *et al.*, 2002; Scarbrough, 1999; Schrank, 1781; Schuder, 1975; Schwarz, 1891; Sheppard, 1946; Smith, 1893a, 1900, 1910a, 1910c; Steinhausen, 1996; Swan & Papp, 1972; Thomas, 1995; Thurston, 1998; Ulke, 1903; Vig, 1996, 1997; Weber & Thompson, 1976; Weiss, 1919b; Wene, 1968; Wene *et al.*, 1968; Westcott, 1946; Wheeler & Hoebeke, 1994; White, 1983; Wilcox, 1954, 1965, 1979; Wilson *et al.*, 1982; Woods, 1924; Young & Hall, 1986). Additionally, *X. luteola* has been associated with *Zelkova carpinifolia* [could be either *Z. carpinifolia* Dippel (= *Z. crenata* Spach) or *Z. carpinifolia* (Pall.) K. Koch] and *Z. serrata* (Thunb.) Makino (Ulmaceae) (Anonymous, 1962h; Hall *et al.*, 1987; Howard, 1896; Johnson & Lyon, 1991; Wilson *et al.*, 1982).

“*Galeruca Calmariensis*, Linnaeus” has been reported from North America in association with *Ulmus* (Fitch, 1859a; Harris, 1841, 1863; Packard, 1890; Perkins, 1890). These reports were undoubtedly based on misidentified *X. luteola*.

Under experimental conditions, *X. luteola* has fed on several of the plants mentioned above and also on *Ulmus davidiana* Planch., *U. japonica* (Rehder) Sarg., *U. laciniata* (Trautv.) Mayr., *U. macrocarpa* Hance, *U. propinqua* Koidz., and *U. szechuanica* Fang., as well as on hybrids derived from *U. americana*, *U. carpinifolia*, *U. davidiana*, *U. hollandica* Mill., *U. japonica*, *U. parvifolia*, *U. propinqua*, *U. pumila*, and *U. wilsoniana* (Hall, 1986; Hall & Townsend, 1987; Hall & Young, 1986; Hall *et al.*, 1987; Johnson & Lyon, 1991; Miller & Ware, 1994, 1997, 1999). However, some of these plants were comparatively poor hosts.

Taylor (1928) recorded the “striking abundance” of *X. luteola* on shoots of *Picea excelsa* (Lam.) Link, *Pinus strobus* L., or *P. sylvestris* L. (Pinaceae). Even so, these are almost certainly not food plants. This beetle species has also been recorded from moss [Bryophyta]; maple [*Acer*] (Aceraceae); *Carduus nutans* L., *C. pycnocephalus* L. (Asteraceae); alder [*Alnus*], *Betula alba* L. [*B. pubescens* Ehrh.] (Betulaceae); *Cornus stolonifera* Michx. [*C. sericea* L.] (Cornaceae); green bean [*Phaseolus vulgaris* L.], snap bean [*Phaseolus vulgaris*] (Fabaceae); beech [*Fagus grandifolia* Ehrh.] (Fagaceae); *Papaver rhoeas* L. (Papaveraceae); grass [Poaceae]; almond [*Prunus dulcis* (Mill.) D. A. Webb] (Rosaceae); cottonwood [*Populus*] (Salicaceae); and potato [*Solanum tuberosum* L.] (Solanaceae) (Anonymous, 1960r, 1963d, 1965j, 1967r, 1976b; Baerg, 1949; Campobasso *et al.*, 1999; Gallaway, 1956; Gilliland & Farahbakhsh, 1963; Herrick, 1935; Horning & Barr, 1970; Penrose & Humphrey, 1971; Saunders, 1977; Taylor, 1928). However, in spite of some reports of feeding, plants other than Ulmaceae are not normal hosts.

***Xanthonia angulata* Staines & Weisman.** This species has been reported from *Quercus* (Fagaceae) (Staines & Weisman, 2001a; Weisman, 1960).

***Xanthonia decemnotata* (Say).** This species has been recorded from *Betula* (Betulaceae); *Fagus grandifolia* Ehrh., *Quercus* (Fagaceae); *Hamamelis* (Hamamelidaceae); *Abies*, *Picea*, pine [*Pinus*], *Tsuga* (Pinaceae); Russet apple [*Malus sylvestris* P. Mill.], *Rubus strigosus* Michx. [*R. idaeus* var. *strigosus* (Michx.) Maxim.] (Rosaceae); *Salix discolor* Muhl., *S. petiolaris* J. E. Sm. (Salicaceae); *Tilia americana* L. (Tiliaceae); and *Ulmus* (Ulmaceae) (Anonymous, 1985; Baker, 1972; Blatchley, 1910; Chagnon & Robert, 1962; Dearborn & Donahue, 1993; Dillon & Dillon, 1961; Downie & Arnett, 1996; Felt, 1907; Hamilton, 1895; Hoffman, 1942; Knaus, 1906b; MacAloney, 1950; Phipps, 1926; Proctor, 1938, 1946; Smith, 1900, 1910a; Staines & Weisman, 2001a; Webster, 1881; Weisman, 1960; Wilcox, 1954, 1979).

In his unpublished thesis, Weisman (1960) recognized numerous apparently valid species that had been confused with *X. decemnotata*. Although some of them were formally described by Staines & Weisman (2001a, 2001b), others have still not been validated. It is likely that some of the above-mentioned associations were based on species of *Xanthonia* other than true *X. decemnotata*.

***Xanthonia dentata* Staines & Weisman.** This species has been reported from oak [*Quercus*] (Fagaceae) (Staines & Weisman, 2001b; Weisman, 1960). In previously unpublished investigations in western Texas, we have collected adults from *Quercus gravesi* Sudw. and *Q. grisea* Liebm.

***Xanthonia furcata* Staines & Weisman.** This species has been reported from the foliage of *Prunus* (Rosaceae) (Staines & Weisman, 2001a; Weisman, 1960).

***Xanthonia pilosa* Staines & Weisman.** This species has been reported from oak [*Quercus*] (Fagaceae), *Condalia spathulata* A. Gray (Rhamnaceae), and *Phoradendron* (Viscaceae) (Staines & Weisman, 2001b; Weisman, 1960).

***Xanthonia pinicola* Schaeffer.** This species has been beaten from *Pinus* (Pinaceae) (Schaeffer, 1934; Staines & Weisman, 2001a; Weisman, 1960). In previously unpublished field work in Arizona, we have collected an adult from *P. strobiformis* Engelm.

***Xanthonia serrata* Staines & Weisman.** This species has been reported from *Solidago* (Asteraceae), *Quercus alba* L. (Fagaceae), and *Carya* (Juglandaceae) (Staines & Weisman, 2001a; Weisman, 1960).

***Xanthonia stevensi* Baly.** This species has been recorded from *Quercus marilandica* Muenchh. (Fagaceae), *Carya* (Juglandaceae), and *Prunus* (Rosaceae) (Packard, 1890; Staines & Weisman, 2001a; Weisman,

1960). Beyond this, some reported associations for *Xanthonia villosula* (Melsheimer) may have been based on *X. stevensi*. See the discussion below regarding that species.

***Xanthonia striata* Staines & Weisman.** This species has been reported from *Quercus marilandica* Muenchh., *Q. rubra* L. (Fagaceae); *Carya* and *Juglans* (Juglandaceae) (Staines & Weisman, 2001a; Weisman, 1960). In previously unpublished investigations, we confirm the association with *Q. marilandica*, having collected adults from this plant in central Texas.

***Xanthonia vagans* (LeConte).** This species has been reported from juniper [*Juniperus*] (Cupressaceae) (Wickham, 1896b). In previously unpublished investigations in central Texas, we have associated adults with *Juniperus ashei* Buchholz.

Weisman (1960) recorded this beetle species from Walnut. However, this may have been in reference to a locality rather than *Juglans* (Juglandaceae) (see localities mentioned by Wickham, 1896b).

***Xanthonia villosula* (Melsheimer).** This species has been reported from *Acer saccharum* Marsh. (Aceraceae); *Carpinus caroliniana* Walt., *Corylus*, *Ostrya virginiana* (Mill.) K. Koch (Betulaceae); *Cercis canadensis* L. (Fabaceae); “le Hêtre” [*Fagus grandifolia* Ehrh.], *Quercus alba* L. (Fagaceae); *Hamamelis virginiana* L. (Hamamelidaceae); *Carya ovata* (Mill.) K. Koch (Juglandaceae); *Myrica* (Myricaceae); *Crataegus punctata* Jacq., *Fragaria virginiana* Mill., *Rosa*, *Rubus*, *Waldsteinia fragarioides* (Michx.) Tratt. (Rosaceae); *Populus* (Salicaceae); *Tilia americana* L. (Tiliaceae); and *Vitis riparia* Michx. (Vitaceae) (Blatchley, 1910, 1924a, 1924c; Chagnon & Robert, 1962; Dillon & Dillon, 1961; Douglass, 1929; Downie & Arnett, 1996; Felt, 1907; Hamilton, 1895; Lee, 1949; Packard, 1890; Popenoe, 1877; Smith, 1900, 1910a; Staines & Weisman, 2001a; Stauffer, 1865; Weisman, 1960; Wellhouse, 1919, 1922; Wilcox, 1954, 1979; Young, 1906). Additionally, Webster (1881) included this beetle species in a list of chrysomelids collected from either *Salix discolor* Muhl. or *S. petiolaris* J. E. Sm. (Salicaceae). In previously unpublished investigations in Texas, we have collected adults of *X. villosula* from *Quercus nigra* L. and *Q. stellata* Wangenh. (Fagaceae).

In his unpublished thesis, Weisman (1960) noted that reported associations with *Acer saccharum*, *Carpinus caroliniana*, *Ostrya virginiana*, *Quercus alba*, *Hamamelis virginiana*, *Carya ovata*, *Crataegus punctata*, *Fragaria virginiana*, wild rose [*Rosa*], *Rubus*, *Waldsteinia fragarioides*, *Tilia americana*, and *Vitis riparia* were probably based instead on *Xanthonia stevensi* Baly, a species that he removed from synonymy with *X. villosula*. In fact, he recognized numerous apparently valid species that had been confused with *X. villosula*. Although some of them were formally described by Staines & Weisman (2001a, 2001b), others have still not been validated. It is possible that some of the above-mentioned associations were based on species of *Xanthonia* other than true *X. villosula* or *X. stevensi*.

***Xanthonia* spp.** In his unpublished thesis, Weisman (1960) recognized numerous new species. Although some of them were later formally described by Staines & Weisman (2001a, 2001b), others have still not been validated. In his treatment of the still unvalidated species, he recorded material labeled from *Xanthium* (Asteraceae); *Cornus sericea* L. (Cornaceae); *Juniperus* (Cupressaceae); *Quercus* (Fagaceae); pecan [*Carya illinoensis* (Wang.) K. Koch] (Juglandaceae); pine [*Pinus*] (Pinaceae); red-haw [*Crataegus*] (Rosaceae); and woodbine [*Parthenocissus*] (Vitaceae).

***Xenochalepus ater* (Weise).** This species has been reared from leaf mines of *Phaseolus vulgaris* L. (Fabaceae), and it has also been reported as abundant on soybean [*Glycine max* (L.) Merr.] (Fabaceae) (Brisley, 1925; Butte, 1968a; Essig, 1958; Jones & Brisley, 1925; Kogan & Kogan, 1979).

***Xenochalepus omogerus* (Crotch).** This species, including populations in Latin America, is associated with Fabaceae, having been reported from *Benthamantha mollis* (Kunth) Alef., *Centrosema macrocarpum* Benth., wild bean vine [likely *Phaseolus* or *Strophostyles*], and *Robinia* (Butte, 1968a; Flowers & Janzen, 1997; Frost, 1924; Maulik, 1937; Moldenke, 1971; Staines, 1996).

***Xenochalepus potomacus* Butte.** The host of this species is *Phaseolus polystachios* (L.) B.S.P. (Fabaceae) (Butte, 1968a; Clark, 2000; Downie & Arnett, 1996; Ford & Cavey, 1985; Staines, 1995; Wilcox, 1979).

***Xenochalepus robiniae* Butte.** This species has been collected from *Robinia neomexicana* A. Gray (Fabaceae) (Butte, 1968a).

***Zenocolaspis subtropica* (Schaeffer).** Riley *et al.* (2002) stated that this species restricts its feeding to *Eupatorium* (Asteraceae). However, this was based on our collections from *Chromolaena odorata* (L.) R. M. King & H. Rob. (Asteraceae), a species that was previously classified in the genus *Eupatorium*.

***Zeugophora abnormis* (LeConte).** This species has been reported from *Populus balsamifera* L., *P. tremuloides* Michx., and *Salix* (Salicaceae) (Beller & Hatch, 1932; Carr, 1920, 1988; Fall, 1901; Frost, 1924; Ives & Wong, 1988; Lee, 1998; Raizenne, 1975; Strickland, 1920; Wickham, 1902).

***Zeugophora atra* Fall.** This species has been recorded from *Populus* and *Salix* (Salicaceae) (Raizenne, 1975; Wilcox, 1979).

***Zeugophora californica* Crotch.** This species has been associated with *Populus tremuloides* Michx. and willow [*Salix*] (Salicaceae) (Brisley, 1928; Carr, 1988; Crotch, 1874).

***Zeugophora consanguinea* Crotch.** Webster (1881) included this species in a list of chrysomelids observed on *Salix discolor* Muhl. and *S. petiolaris* J. E. Sm. (Salicaceae).

***Zeugophora puberula* Crotch.** This species has been associated with *Populus tremuloides* Michx. and *Salix* (Salicaceae) (Clark, 2000; Downie & Arnett, 1996; Ulke, 1903; Wilcox, 1979).

***Zeugophora scutellaris* Suffrian.** Hosts are Salicaceae, including *Populus x acuminata* Rydb., *P. deltoides* Marshall, *P. grandidentata* Michx., *P. nigra* L., *P. tremuloides* Michx., *P. trichocarpa* J. Torr. & A. Gray ex Hook., and *Salix* (Anderson, 1960; Anonymous, 1985; Baker, 1972; Beenen & Winkelman, 1989; Beller & Hatch, 1932; Cavey, 1994; Cranshaw *et al.*, 2000; Downie & Arnett, 1996; Frost, 1924; Grave, 1917; Ives & Wong, 1988; Jolivet, 1948b; Lawson, 1991; Lee, 1998; Lopatin, 1984; MacAloney, 1950; MacAloney & Ewan, 1964; Mohr, 1966; Needham *et al.*, 1928; Nicolay, 1919; Riley & Enns, 1979; Strickland, 1920; Weiss & Nicolay, 1919; Wilcox, 1954, 1979; Wilson *et al.*, 1982). This beetle species has also been beaten from oak [*Quercus*] (Fagaceae) and hickory [*Carya*] (Juglandaceae) (Blatchley, 1910; Weiss & Nicolay, 1919; Wilcox, 1954), but these occurrences were probably incidental.

***Zeugophora varians* Crotch.** This species has been associated with *Populus* and willow [*Salix*] (Salicaceae) (Blatchley, 1910; Brisley, 1928; Carr, 1920; Clark, 2000; Downie & Arnett, 1996; Felt, 1907; Frost, 1924; Hamilton, 1895; Jaques, 1951; Smith, 1900, 1910a; Weiss & Nicolay, 1919; Wilcox, 1979).

***Zygogramma arizonae* Schaeffer.** Moldenke (1971) reported this species from an unidentified composite [Asteraceae]. Thomas O. Robbins (pers. comm.) has collected *Z. arizonae* in southeastern Arizona from a plant tentatively identified as *Trixis californica* Kell. (Asteraceae).

***Zygogramma conjuncta* (Rogers).** This species, including populations in Mexico, has been recorded from *Ambrosia artemisiifolia* L., *Flourensia cernua* DC., *Helianthus annuus* L., *H. fascicularis* Greene, *Iva axillaris* Pursh, *Machaeranthera tanacetifolia* (Kunth) Nees, and *Parthenium hysterophorus* L. (Asteraceae) (Anaya-Rosales *et al.*, 1987; Hatch, 1971; Leech & Green, 1955; Richerson & Boldt, 1995; Rogers, 1988; Tanner, 1928; Wickham, 1890a). In previously unpublished investigations in both Utah and western Texas, we confirm the association with *M. tanacetifolia*, having collected many adults of *Z. conjuncta*, plus larvae presumably belonging to this beetle species, from this plant.

Beyond Asteraceae, *Z. conjuncta* has also been reported from *Brassica campestris* L. [*B. rapa* L.], *Descurainia sophia* (L.) Webb in Engler & Prantl (Brassicaceae); *Atriplex*, poverty weed [*Monolepis*] (Chenopodiaceae); and poplar [*Populus*] (Salicaceae) (Anaya-Rosales *et al.*, 1987; Felt, 1907; Knowlton & Smith, 1935). However, these are probably not normal food plants.

***Zygogramma continua* (LeConte).** Wickham (1902) reported this species from *Gymnolomia multiflora* (Nutt.) Rothr. (Asteraceae). In previously unpublished field work in Utah, we confirm this association having collected numerous specimens of *Z. continua*, both adults and larvae, from this plant.

***Zygogramma disrupta* (Rogers).** This species has been associated with *Ambrosia artemisiifolia* L. and *A. psilostachya* DC. (Asteraceae) (Julien & Griffiths, 1998; Kovalev & Medvedev, 1983; Kovalev *et al.*, 1983; Piper, 1978). In previously unpublished investigations, we have identified adults that were collected by Thomas O. Robbins from *A. confertiflora* DC. in southern Texas.

Additionally, *Z. disrupta* has been found on willow [*Salix*] (Salicaceae) (Douglass, 1929; Piper, 1978), but Kovalev & Medvedev (1983) rightly discounted this association. Beetles have also been collected from *Gutierrezia sarothrae* (Pursh) N. L. Britt. & Rusby, sunflower [*Helianthus*] (Asteraceae); and *Medicago sativa* L. (Fabaceae) (Foster *et al.*, 1981; Powell, 1932; Smith, 1940). At least the non-asteraceous occurrence was surely incidental.

***Zygogramma exclamationis* (Fabricius).** This species feeds on *Helianthus annuus* L., *H. giganteus* L., and *H. petiolaris* Nutt. (Asteraceae) (Abdullah & Qureshi, 1969; Arnett & Jacques, 1981; Baker, 1895; Beirne, 1971; Brisley, 1925; Carr, 1988; Cassidy, 1889; Charlet, 1992; Charlet *et al.*, 1987; Chittenden, 1898f; Cobia & Zimmer, 1978; Criddle, 1922; Davidson & Lyon, 1987; Douglass, 1929; Essig, 1958; Gerber *et al.*, 1979; Hilgendorf & Goeden, 1981; Kirk & Balsbaugh, 1975; Knowlton, 1958a; Kovalev & Medvedev, 1983; Lawson, 1976b, 1991; Papp, 1984; Piper, 1975; Popenoe, 1877; Powell, 1932; Riley & Enns, 1979; Riley *et al.*, 2002; Rogers, 1977, 1988; Rogers & Thompson, 1978, 1980; Smith, 1940; Swan & Papp, 1972; Townsend, 1892; Walker, 1936; Westdal & Barrett, 1955; Westdal *et al.*, 1976; Wickham, 1890a, 1896a, 1902). Beetles have also been reported from *Franseria tomentosa* A. Gray and *Xanthium strumarium* L. (Asteraceae) (Moldenke, 1971; Rogers, 1977).

Under experimental conditions, *Z. exclamationis* has also fed on other species of *Helianthus*, including *H. angustifolius* L., *H. argophyllus* J. Torr. & A. Gray, *H. ciliaris* DC., *H. debilis* Nutt., *H. mollis* Lam., *H. paradoxus* Heiser, *H. praecox* J. Torr. & A. Gray, *H. salicifolius* A. Dietr., and *H. tuberosus* L. (Rogers & Thompson, 1978, 1980). However, some of these plants were shown to very poor hosts.

In nature, this beetle species has also been collected from milkweed [*Asclepias*] (Asclepiadaceae); beeplant [*Cleome*] (Capparaceae), Russian thistle [*Salsola*] (Chenopodiaceae); *Medicago sativa* L., *Melilotus*

alba Medik. (Fabaceae); and *Solanum tuberosum* L. (Solanaceae) (Hatch, 1971; Papp, 1984; Powell, 1932). However, these associations with non-asteraceous plants were surely incidental. Luger (1899) reported damage to wild rose [*Rosa*] (Rosaceae), but this may have been based on confusion with *Calligrapha lunata* (Fabricius).

***Zygogramma heterothecae* Linell.** This species has been associated with *Heterotheca subaxillaris* (Lamb.) N. L. Britt. & Rusby (Asteraceae) (Altieri & Whitcomb, 1980; Kovalev & Medvedev, 1983; Lindroth, 1971; Linell, 1896; Peck & Thomas, 1998; Riley & Enns, 1979; Wilcox, 1972). Additionally, in previously unpublished field work in Missouri, we have found adults on leaves of *H. camporum* (Greene) Shinnars. However, we did not observe the beetles in the act of feeding on these leaves.

Beyond this, Staines (1999) recorded material collected by sweeping grass [Poaceae]. Even so, this should certainly not be interpreted as a host association.

***Zygogramma malvae* (Stål).** This species, including populations in Mexico, has been reported from Malvaceae, with records for *Anoda cristata* (L.) Schlecht., “algodón” [*Gossypium*], and *Sphaeralcea* (Anaya-Rosales *et al.*, 1987; Domínguez & Carrillo, 1976; Jolivet & Hawkeswood, 1995; Moldenke, 1971). This beetle species has also been recorded from *Ambrosia artemisiifolia* L. and *Parthenium hysterophorus* L. (Asteraceae) (Anaya-Rosales *et al.*, 1987; McClay *et al.*, 1995).

Beyond this, Anaya-Rosales *et al.* (1987) reported that *Z. malvae* is occasionally found on *Eruca sativa* P. Mill. [*E. vesicaria* ssp. *sativa* (P. Mill.) Thellung] (Brassicaceae), but they did not believe this plant to be a normal host. Domínguez & Carrillo (1976) recorded *Z. malvae* from “frijol” [likely *Phaseolus vulgaris* L.] (Fabaceae), but this occurrence may have been incidental.

***Zygogramma opifera* (Stål).** Moldenke (1971) reported this species from an unidentified composite [Asteraceae].

***Zygogramma piceicollis* (Stål).** This species has been recorded from *Schinus molle* L. (Anacardiaceae); *Coriandrum sativum* L., *Daucus carota* L. (Apiaceae); *Ambrosia artemisiifolia* L., *Bidens pilosa* L., *Cosmos bipinnatus* Cav., *Eupatorium lasium* Rob., *Helianthus annuus* L., *Lactuca sativa* L., *Parthenium hysterophorus* L., *Senecio*, *Simsia amplexicaulis* (Cav.) Pers., *Tagetes tenuifolia* Cav., *Tithonia tubiformis* (Jacq.) Cas., *Verbesina encelioides* (Cav.) Benth. & Hook. f. ex A. Gray (Asteraceae); *Alnus jorullensis* Kunth in H. B. K. (Betulaceae); *Brassica oleracea* L., *B. campestris* L. [*B. rapa* L.], *Eruca sativa* P. Mill. [*E. vesicaria* ssp. *sativa* (P. Mill.) Thellung], *Raphanus raphanistrum* L., *R. sativus* L. (Brassicaceae); *Buddleja cordata* Kunth in H. B. K. (Buddlejaceae); *Beta vulgaris* L., *Chenopodium album* L., *C. murale* L. (Chenopodiaceae); *Ipomoea stans* Cav. (Convolvulaceae); *Croton morifolius* Willd. (Euphorbiaceae); *Acacia farnesiana* (L.) Willd. [likely *A. smallii* Isley, rather than true *A. farnesiana*], *Lupinus montanus* Kunth in H. B. K., *Medicago sativa* L., *Phaseolus vulgaris* L., mesquite [*Prosopis*], *Vicia faba* L. (Fabaceae); *Quercus* (Fagaceae); *Salvia elegans* Müll. Agr. (Lamiaceae); *Anoda cristata* (L.) Schlecht., *Malva parviflora* L. (Malvaceae); *Mirabilis jalapa* L. (Nyctaginaceae); *Abies religiosa* (Kunth in H. B. K.) Schltdl. & Cham. (Pinaceae); *Avena fatua* L., *Hordeum vulgare* L., “trigo” [*Triticum*], *Zea mays* L. (Poaceae); *Datura stramonium* L., *Physalis*, *Saracha jaltomata* Schl., *Solanum elaeagnifolium* Cav., *S. nigrescens* M. Martens & Galeotti, and *S. rostratum* Dunal (Solanaceae) (Anaya-Rosales *et al.*, 1987; Domínguez & Carrillo, 1976; Moldenke, 1971; Ward *et al.*, 1977). Of the above-mentioned associations, at least those with non-asteraceous plants were likely incidental. In previously unpublished field work in southern Arizona, we have collected a series (32 adults) from *Heterotheca subaxillaris* (Lamb.) N. L. Britt. & Rusby (Asteraceae).

***Zygogramma signatipennis* (Stål).** This species has been reported from *Schinus molle* L. (Anacardiaceae); *Coriandrum sativum* L., *Daucus carota* L. (Apiaceae); *Baccharis conferta* Kunth, *Bidens pilosa* L., *Cosmos bipinnatus* Cav., “girasol” [*Helianthus*], *Lactuca sativa* L., *Parthenium hysterophorus* L., *Senecio*, *Simsia amplexicaulis* (Cav.) Pers., *Tagetes tenuifolia* Cav., *Tithonia tubiformis* (Jacq.) Cas., *Viguiera dentata* (Cav.) Spreng. (Asteraceae); *Brassica campestris* L. [*B. rapa* L.], *Eruca sativa* P. Mill. [*E. vesicaria* ssp. *sativa* (P. Mill.) Thellung], *Raphanus sativus* L. (Brassicaceae); *Beta vulgaris* L., *Chenopodium album* L., *C. murale* L. (Chenopodiaceae); *Acacia farnesiana* (L.) Willd. [likely *A. smallii* Isley, rather than true *A. farnesiana*], *Medicago sativa* L., *Phaseolus vulgaris* L. (Fabaceae); *Quercus* (Fagaceae); *Malva parviflora* L. (Malvaceae); *Abies religiosa* (Kunth in H. B. K.) Schltdl. & Cham. (Pinaceae); *Avena fatua* L., *Hordeum vulgare* L., *Sorghum*, *Zea mays* L. (Poaceae); *Coffea* (Rubiaceae); *Datura stramonium* L., *Physalis*, *Solanum cervantesii* Lag., and *S. nigrescens* M. Martens & Galeotti (Solanaceae) (Anaya-Rosales *et al.*, 1987; Cappaert, 1988; Domínguez & Carrillo, 1976; Knab, 1909b; Maes & Staines, 1991; Moldenke, 1971; Palmer & Pullen, 1994). Occurrences on non-asteraceous plants were likely incidental.

***Zygogramma suturalis* (Fabricius).** This species feeds on *Ambrosia artemisiifolia* L., *A. psilostachya* DC., and *A. trifida* L. (Asteraceae) (Arnett & Jacques, 1981; Balsbaugh & Hays, 1972; Blatchley, 1910; Clark, 2000; Craighead, 1923; Dillon & Dillon, 1961; Downie & Arnett, 1996; Edwards, 1949; Gassmann, 1995; Goeden & Terrink, 1993; Greene, 1970; Hamilton, 1895; Harris & Piper, 1970; Igrc, 1987; Igrc *et al.*,

1995; Jolivet, 1991b, 2001; Jolivet & Petitpierre, 1976b; Jolivet & Verma, 2002; Julien & Griffiths, 1998; Kovalev & Medvedev, 1983; Kovalev *et al.*, 1983; Lawson, 1991; LeSage, 1998b; Pantyukhov, 1992; Papp, 1984; Peck & Thomas, 1998; Piper, 1975; Puttler & Long, 1983; Reznik, 1991, 1993, 2000; Reznik *et al.*, 1990, 1994; Riley & Enns, 1979; Smith, 1900, 1910a; Swan & Papp, 1972; Timmermans *et al.*, 1992; Trippel, 1934; Vinogradova, 1988; Wan & Wang, 1989, 1990a, 1990b; Wan *et al.*, 1989; Wilcox, 1954, 1979).

This beetle species has also reported from *Eupatorium*, *Lactuca serriola* L., *Ratibida pinnata* (Vent.) Barnh., *Solidago*, and *Vernonia interior* Small [*V. baldwinii* ssp. *interior* (Small) W. Z. Faust] (Asteraceae) (Arnett & Jacques, 1981; Blatchley, 1910; Dillon & Dillon, 1961; Downie & Arnett, 1996; Edwards, 1949; Harris & Piper, 1970; Hendrickson, 1930b; Kovalev & Medvedev, 1983; Lawson, 1991; Papp, 1984; Piper, 1975; Reznik, 1993; Schwitzgebel & Wilbur, 1942; Swan & Papp, 1972). Even so, these are probably not normal hosts.

Additionally, *Z. suturalis* has been recorded from *Asclepias syriaca* L. (Asclepiadaceae); lamb's quarters [*Chenopodium album* L.] (Chenopodiaceae); *Cyperus rotundus* L. (Cyperaceae); *Cercis canadensis* L., *Lespedeza*, yellow locust [*Robinia pseudoacacia* L.] (Fabaceae); mint [*Mentha* or a similar genus] (Lamiaceae); asparagus [*Asparagus officinalis* L.] (Liliaceae); okra [*Abelmoschus esculentus* (L.) Moench] (Malvaceae); and bluegrass [*Poa*] (Poaceae) (Dailey *et al.*, 1978; Hopkins, 1893; Kirk, 1970; Lee, 1949; Morris, 1914a, 1914b; Rouse & Medvedev, 1972; Trippel, 1934). However, these non-asteraceous occurrences were surely incidental.

***Zygogramma tortuosa* (Rogers).** This species feeds on Asteraceae. The association with *Ambrosia eriocentra* (Gray) Payne is well documented (Carr, 1988; Goeden & Ricker, 1976b, 1979; Goeden & Teerink, 1993; Kovalev & Medvedev, 1983). In previously unpublished investigations, we have seen material labeled from Utah in association with *Ambrosia dumosa* (A. Gray) W. W. Payne. Beyond this, Richerson & Boldt (1995) reported that *Z. tortuosa*, both adults and larvae, occurs commonly on *Flourensia cernua* DC. Our previously unpublished field work in New Mexico confirms this association. This beetle species has also been reported from *Dicoria canescens* A. Gray and *Helianthus annuus* L. (Carr, 1988; Goeden & Teerink, 1993).

Under laboratory conditions, *Z. tortuosa* has fed on the asteraceous species *Ambrosia artemisiifolia* L., *A. chenopodiifolia* (Benth.) W. W. Payne, *A. confertiflora* DC., *A. dumosa*, *A. ilicifolia* (Gray) Payne, *A. psilostachya* DC., *A. pumila* (Nutt.) Gray, and *Helianthus annuus* (Goeden & Ricker, 1979; Kovalev & Medvedev, 1983). However, some of these plants are apparently not normal hosts in nature.

Cockerell (1897) and Fall & Cockerell (1907) recorded *Z. tortuosa* from *Ephedra* (Ephedraceae). However, this plant seems an unlikely host.

Leaf Beetles Listed by Plants

The mere pairing of a plant name with a beetle name in this index is not necessarily an indication of a host relationship. To the contrary, the referenced text often states that a particular plant is not the host of the beetle.

Both common plant names and scientific plant names appear in literature dealing with leaf beetle biology. In instances where both appear in a single article, only the scientific name is reported in this index. In instances where only the common name appears in an article, it is listed in this index, and the reader is referred to the presumed scientific name. Similarly, if an antiquated scientific plant name is used in the literature, this name appears in the index, and the reader is referred to the updated name. Exceptions occur in instances where a plant species has merely been transferred from one genus to another, without changing the species name. In such instances, the older combination is sometimes given in the index, but it often is not.

This index lists nearly all plant species mentioned in the text of this publication. The only exceptions involve a few instances where we have noted plant associations for beetles identified only to the generic level. On the other hand, the index does incorporate associations in which plants have been recorded only to the generic level. However, it does not include mention of more general associations, such as beetles that have been recorded from a particular plant family but without indication of the plant genus.

- Abelmoschus esculentus* (L.) Moench (Malvaceae) *Acalymma vittatum* (Fabricius), *Brachycoryna pumila* Guérin-Méneville, *Colaspis brunnea* (Fabricius), *C. floridana* Schaeffer, *C. hesperia* Blake, *C. planicostata* Blake, *C. pseudofavosa* Riley, *Cryptocephalus guttulatus* Olivier, *C. obsoletus* Germar, *Diabrotica balteata* LeConte, *D. tibialis* Jacoby, *D. undecimpunctata* Mannerheim, *Epitrix fasciata* Blatchley, *Lema trivittata* Say, *Metrioidea brunnea* (Crotch), *Myochrous denticollis* (Say), *Systema blanda* Melsheimer, *S. dimorpha* Blake, *S. frontalis* (Fabricius), *Zygogramma suturalis* (Fabricius)
- Abies balsamea* (L.) P. Mill. (Pinaceae) *Pachybrachis obsoletus* Suffrian, *Syneta extorris* Brown, *S. ferruginea* (Germar)
- Abies concolor* (Gord. & Glend.) Lindl. ex Hildebr. (Pinaceae) . . . *Pachybrachis varicolor* Suffrian
- Abies fraseri* (Pursh) Poir. (Pinaceae) *Syneta extorris* Brown, *S. ferruginea* (Germar)
- Abies lasiocarpa* (Hook.) Nutt. (Pinaceae) *Syneta carinata* Mannerheim, *S. hamata* Horn, *S. simplex* LeConte
- Abies religiosa* (Kunth in H. B. K.) Schltld. & Cham. (Pinaceae) . . *Zygogramma piceicollis* (Stål), *Z. signatipennis* (Stål)
- Abies* sp. (Pinaceae) *Altica ambiens* LeConte, *A. corni* Woods, *Bassareus formosus* (Melsheimer), *B. mamifer* (Newman), *Bromius obscurus* (Linnaeus), *Calligrapha alni* Schaeffer, *C. bidenticola* Brown, *C. californica* Linell, *C. multipunctata* (Say), *C. philadelphica* (Linnaeus), *C. rowena* Knab, *C. scalaris* (LeConte), *Capraita circumdata* (Randall), *C. subvittata* (Horn), *Chrysomela crotchii* Brown, *C. mainensis* Bechyné, *C. scripta* Fabricius, *Cryptocephalus venustus* Fabricius, *Dibolia borealis* Chevrolat, *Disonycha latifrons* Schaeffer, *Epitrix cucumeris* (Harris), *Glyptoscelis pubescens* (Fabricius), *G. septentrionalis* Blake, *Gonioctena americana* (Schaeffer), *Labidomera clivicollis* (Kirby), *Microrhopala vittata* (Fabricius), *Neochlamisus cribripennis* (Brown), *Orsodacne atra* (Ahrens), *Phratora americana* (Schaeffer), *P. purpurea* Brown, *Phyllobrotica decorata* (Say), *P. limbata* (Fabricius), *Plagiodera versicolora* (Laicharting), *Plateumaris nitida* (Germar), *P. rufa* (Say), *P. shoemakeri* (Schaeffer), *Prasocuris vittata* (Olivier), *Psylliodes punctulatus* Melsheimer, *Scelolyperus meracus* (Say), *Sumitrosis inaequalis* (Weber), *Syneta pilosa* Brown, *Tricholochmaea decora* (Say), *Xanthonia decemnotata* (Say)
- Abutilon americanum* Panz. (Malvaceae) *Brachycoryna pumila* Guérin-Méneville, *Leptinotarsa decemlineata* (Say)
- Abutilon berlandieri* A. Gray ex S. Watson (Malvaceae) *Chaetocnema quadricollis* Schwarz
- Abutilon lignosum* (Cav.) D. Don (Malvaceae) *Brachycoryna pumila* Guérin-Méneville
- Abutilon matopense* L. S. Gibb (Malvaceae) *Chaetocnema quadricollis* Schwarz
- Abutilon peduncularae* Kunth (Malvaceae) *Brachycoryna pumila* Guérin-Méneville
- Abutilon theophrasti* Medik. (Malvaceae) *Chaetocnema confinis* Crotch, *C. protensa* LeConte, *Diabrotica virgifera* LeConte, *Epitrix fasciata* Blatchley, *Systema frontalis* (Fabricius)
- Abutilon* sp. (Malvaceae) *Stenopodius flavidus* Horn
- Acacia (see *Acacia*)
- Acacia angustissima* (Mill.) Kuntze (Fabaceae) *Pachybrachis latithorax* Clavareau, *Triarius vittipennis* (Horn)

Leaf Beetles Listed by Plants

- Acacia berlandieri* Benth. (Fabaceae) *Cryptocephalus texanus* Schaeffer
- Acacia constricta* Benth. ex A. Gray (Fabaceae) *Anisostena perspicua* (Horn), *Anomoea nitidicollis* Schaeffer, *Coleothorpa axillaris* (LeConte), *Neochlamisus velutinus* Karren, *Pachybrachis postfasciatus* Fall, *P. texanus* Bowditch, *P. turgicollis* Fall, *Pseudoluperus cyanellus* (Horn)
- Acacia farnesiana* (L.) Willd. (Fabaceae) (see *Acacia smallii* Isley)
- Acacia flexicaulis* Benth. (Fabaceae) (see *Ebenopsis ebano* (Berl.) Barneby & Grimes)
- Acacia greggii* A. Gray (Fabaceae) *Anomoea rufifrons* (Lacordaire), *Cryptocephalus pseudomaccus* White, *Diplacaspis prosternalis* (Schaeffer), *Leptinotarsa collinsi* Wilcox, *Megalostomis subfasciata* (LeConte), *Pachybrachis snowi* Bowditch
- Acacia rigidula* Benth. (Fabaceae) *Diplacaspis prosternalis* (Schaeffer), *Megalostomis dimidiata* (Lacordaire), *Pachybrachis haematodes* Suffrian, *P. hector* Fall, *P. latithorax* Clavareau, *Saxinis sinuata* Schaeffer
- Acacia smallii* Isley (Fabaceae) *Cryptocephalus texanus* Schaeffer, *Diachus auratus* (Fabricius), *Diplacaspis prosternalis* (Schaeffer), *Glenidion flexicaulis* (Schaeffer), *Glyptoscelis prosopis* Schaeffer, *Pachybrachis texanus* Bowditch, *Typophorus nigrinus* (Fabricius), *Zygogramma piceicollis* (Stål), *Z. signatipennis* (Stål)
- Acacia* sp. (Fabaceae) *Babia quadriguttata* (Olivier), *Brachypnoea tristis* (Olivier), *Coleorozena alicula* (Fall), *C. longicollis* (Jacoby), *C. pilatei* (Lacordaire), *C. vittata* (LeConte), *Coleothorpa mucorea* (LeConte), *Coscinoptera aeneipennis* (LeConte), *Cryptocephalus triundulatus* White, *C. trizonatus* Suffrian, *Odontota dorsalis* (Thunberg), *Pachybrachis calidus* Fall, *Saxinis deserticola* Moldenke, *S. hornii* Fall, *S. omogera* Lacordaire, *S. sonorensis* Jacoby, *S. subpubescens* Schaeffer, *Spintherophyta globosa* (Olivier), *Triarius melanolomatus* (Blake)
- Acalypha alopecuroides* Jacq. (Euphorbiaceae) *Colaspis brunnea* (Fabricius)
- Acalypha gracilens* Gray (Euphorbiaceae) *Margaridisa atriventris* (Melsheimer)
- Acalypha marginata* Spreng. (Euphorbiaceae) *Margaridisa atriventris* (Melsheimer)
- Acalypha rhomboidea* Raf. (Euphorbiaceae) (see *Acalypha virginica* L.)
- Acalypha tricolor* Seem. (Euphorbiaceae) *Margaridisa atriventris* (Melsheimer)
- Acalypha virginica* L. (Euphorbiaceae) *Hornaltica bicolorata* (Horn), *Margaridisa atriventris* (Melsheimer), *Systema frontalis* (Fabricius)
- Acalypha wilkesiana* Muell.-Arg. (Euphorbiaceae) *Margaridisa atriventris* (Melsheimer)
- Acalypha* sp. (Euphorbiaceae) *Epitrix cucumeris* (Harris), *E. fasciata* Blatchley, *Phyllotreta conjuncta* Gentner
- Acamptopappus sphaerocephalus* (W. H. Harv. & A. Gray) A. Gray (Asteraceae) . *Trirhabda nitidicollis* LeConte
- Acamptopappus* sp. (Asteraceae) *Pachybrachis pinguescens* Fall
- Acer circinatum* Pursh (Aceraceae) *Syneta albida* LeConte, *S. hamata* Horn
- Acer dasycarpum* Ehrh. (Aceraceae) *Systema frontalis* (Fabricius)
- Acer macrophyllum* Pursh (Aceraceae) *Glyptoscelis parvula* Blaisdell
- Acer negundo* L. (Aceraceae) *Brachypnoea tristis* (Olivier), *Chaetocnema confinis* Crotch, *Chrysomela scripta* Fabricius, *Orsodacne atra* (Ahrens), *Paria quadriguttata* LeConte
- Acer platanoides* L. (Aceraceae) *Chaetocnema confinis* Crotch
- Acer pseudoplatanus* L. (Aceraceae) *Neochlamisus gibbosus* (Fabricius)
- Acer rubrum* L. (Aceraceae) *Baliosus nervosus* (Panzer), *Brachypnoea puncticollis* (Say), *Neochlamisus bebbianae* (Brown), *Odontota dorsalis* (Thunberg), *Orsodacne atra* (Ahrens), *Syneta extorris* Brown
- Acer saccharinum* L. (Aceraceae) *Baliosus nervosus* (Panzer), *Plateumaris rufa* (Say), *Rhabdopterus picipes* (Olivier)
- Acer saccharum* Marsh. (Aceraceae) *Odontota dorsalis* (Thunberg), *Xanthonia villosula* (Melsheimer)
- Acer spicatum* Lam. (Aceraceae) *Orsodacne atra* (Ahrens), *Plateumaris metallica* (Ahrens), *P. nitida* (Germar), *P. pusilla* (Say)
- Acer* sp. (Aceraceae) *Altica marevagans* Horn, *Calligrapha multipunctata* (Say), *Crepidodera nana* (Say), *Diabrotica undecimpunctata* Mannerheim, *Disonycha glabrata* (Fabricius), *Epitrix cucumeris* (Harris), *E. fasciata* Blatchley, *Labidomera clivicollis* (Kirby), *Xanthogaleruca luteola* (Müller)
- Achillea lanulosa* Nutt. (Asteraceae) *Distigmoptera borealis* Blake, *Phyllotreta albionica* (LeConte)

- Achillea ligustica* All. (Asteraceae) *Longitarsus succineus* (Foudras)
- Achillea millefolium* L. (Asteraceae) *Chrysolina staphylaea* (Linnaeus),
Diabrotica cristata (Harris), *Diachus auratus* (Fabricius), *Kuschelina gibbilaria* (Say), *Longitarsus succineus* (Foudras), *Pachybrachis hybridus* Suffrian, *Pseudoluperus longulus* (LeConte)
- Achillea odorata* L. (Asteraceae) *Longitarsus succineus* (Foudras)
- Achillea* sp. (Asteraceae) *Chrysolina hudsonica* Brown, *Exema dispar* Lacordaire, *Leptinotarsa decemlineata* (Say)
- Acnida* sp. (Amaranthaceae) (see *Amaranthus*)
- Acnistus umbellatus* (Ruiz & Pav.) Miers (Solanaceae) *Lema daturaphila* Kogan & Goeden
- Acoelorrhaphe wrightii* (Briseb. & H. Wendl.) H. Wendl. ex Becc. (Arecaceae) .. *Hemisphaerota cyanea* (Say)
- Acorn squash (see *Cucurbita pepo* L.)
- Acorus americanus* (Raf.) Raf. (Araceae) *Donacia caerulea* Olivier, *D. subtilis* Kunze, *D. tuberculifrons* Schaeffer, *Plateumaris shoemakeri* (Schaeffer)
- Acorus calamus* L. (Araceae) (see *Acorus americanus* (Raf.) Raf.)
- Actinomeris squarrosa* Nutt. (Asteraceae) (see *Verbesina alternifolia* (L.) Britt. ex Kearney)
- Actinomeris* sp. (Asteraceae) (see *Verbesina*)
- Adelia ricinella* L. (Euphorbiaceae) *Hilarocassis exclamationis* (Linnaeus)
- Adenostoma fasciculatum* Hook. & Arn. (Rosaceae) *Colaspidea smaragdula* (LeConte), *Co-leorozena pilatei* (Lacordaire), *Coleothorpa axillaris* (LeConte), *Pachybrachis analis* LeConte, *P. californicus* Fall, *P. convictus* Fall, *P. hybridus* Suffrian, *P. jacobyi* Bowditch, *P. marginipennis* Bowditch, *P. melanostictus* Suffrian, *P. quadratus* Fall, *P. signatifrons* Mannerheim, *Pseudoluperus tuberculatus* (Blake), *Saxinis sonorensis* Jacoby, *Scelolyperus phoxus* Wilcox, *S. varipes* (LeConte), *Synetocephalus adenostomatus* (White), *S. diegensis* (Blake), *S. monorhabdus* (Blake), *Triarius melanolomatus* (Blake), *T. nigroflavus* Riley, Clark, and Gilbert, *Trirhabda labrata* Fall, *T. luteocincta* (LeConte)
- Adenostoma sparsifolium* J. Torr. (Rosaceae) *Altica torquata* LeConte, *Saxinis saucia* LeConte
- Adenostoma* sp. (Rosaceae) *Cryptocephalus sanguinicollis* Suffrian, *Hemiglyptus basalis* (Crotch), *Pachybrachis lustrans* LeConte, *Scelolyperus torquatus* (LeConte), *Synetocephalus bivittatus* (LeConte)
- Adenostyles alpina* Bl. & Fing. (Asteraceae) (see *Adenostyles viridis* Cass.)
- Adenostyles viridis* Cass. (Asteraceae) *Longitarsus jacobaeae* (Waterhouse)
- Aegiphila martinicensis* Jacq. (Verbenaceae) *Omophota cyanipennis* (Fabricius)
- Aeschynomene vigil* Brandegee (Fabaceae) *Pteleon brevicornis* (Jacoby)
- Aesculus californica* (Spach) Nutt. (Hippocastanaceae) *Pachybrachis convictus* Fall, *Synetocephalus bivittatus* (LeConte)
- Aesculus flava* Ait. (Hippocastanaceae) *Chaetocnema minuta* Melsheimer
- Aesculus glabra* Willd. (Hippocastanaceae) *Acalymma vittatum* (Fabricius), *Derocephalis aesculi* (Dury)
- Aesculus hippocastanum* L. (Hippocastanaceae) *Acalymma vittatum* (Fabricius), *Epitrix cucumeris* (Harris)
- Aesculus octandra* Marsh. (Hippocastanaceae) (see *Aesculus flava* Ait.)
- Aesculus pavia* L. (Hippocastanaceae) *Epitrix brevis* Schwarz, *Glyptoscelis albicans* Baly, *Hornaltica bicolorata* (Horn)
- Aesculus* sp. (Hippocastanaceae) *Chaetocnema confinis* Crotch, *Chari-dotella purpurata* (Boheman), *Cryptocephalus notatus* Fabricius, *Deloyala guttata* (Olivier), *Lema conjuncta* Lacordaire, *Octotoma plicatula* (Fabricius), *Syneta ferruginea* (Germar)
- Agalinis fasciculata* (S. Ell.) Raf. (Scrophulariaceae) *Kuschelina fallax* (Melsheimer)
- Agalinis strictifolia* (Benth.) Penn. (Scrophulariaceae) *Kuschelina fallax* (Melsheimer)
- Agave shawii* Engelm. (Agavaceae) *Diabrotica undecimpunctata* Mannerheim
- Ageratina aromatica* (L.) Spach (Asteraceae) *Diabrotica cristata* (Harris)
- Ageratum conyzoides* L. (Asteraceae) *Diabrotica balteata* LeConte
- Agropyron cristatum* (L.) P. Gaertn. (Poaceae) *Diabrotica longicornis* (Say), *D. virgifera* LeConte, *Plateumaris pusilla* (Say), *Pseudoluperus longulus* (LeConte), *Psylliodes cucullatus* (Illiger)
- Agropyron desertorum* (F. E. L. Fischer ex Link) Schult. (Poaceae) .. *Psylliodes cucullatus* (Illiger)
- Agropyron elongatum* (Host) Beauv. (Poaceae) (see *Thinopyrum ponticum* (Podp.) Z.-W. Liu & R.-C. Wang)
- Agropyron intermedium* (Host) Beauv. (Poaceae) (see *Thinopyrum intermedium* (Host) Barkworth & D. R. Dewey)

Leaf Beetles Listed by Plants

- Agropyron smithii* Rydb. (Poaceae) (see *Pascopyrum smithii* (Rydb.) A. Löve)
- Agropyron trichophorum* (Link) K. Richter (Poaceae) (see *Thinopyrum intermedium* (Host) Barkworth & D. R. Dewey)
- Agropyron* sp. (Poaceae) *Altica bimarginata* Say
- Agrostis alba* L. (Poaceae) *Chaetocnema pulicaria* Melsheimer, *Myochrous denticollis* (Say), *Oulema melanopus* (Linnaeus)
- Agrostis* sp. (Poaceae) *Chaetocnema denticulata* (Illiger), *C. minuta* Melsheimer
- Albizia julibrissin* (Willd.) Durazz. (Fabaceae) *Anomoea laticlavata* (Forster)
- Albizia* sp. (Fabaceae) *Anomoea flavokansiensis* Moldenke, *A. rufifrons* (Lacordaire), *Cryptocephalus duryi* Schaeffer, *Megalostomis dimidiata* (Lacordaire), *Plagioderma versicolora* (Laicharting)
- Alcea rosea* L. (Malvaceae) *Acalymma vittatum* (Fabricius), *Brachycoryna pumila* Guérin-Méneville, *Calligrapha sigmoidea* (LeConte), *Colaspis brunnea* (Fabricius), *Diabrotica undecimpunctata* Mannerheim, *Epitrix tuberis* Gentner, *Lilioceris lili* (Scopoli), *Metrioidea brunnea* (Crotch), *M. varicornis* (LeConte), *Phaedon cyanescens* Stål, *Stenopodius flavidus* Horn
- Alchemilla mollis* (Buser) Rothman (Rosaceae) *Neogalerucella californiensis* (Linnaeus)
- Alchemilla vulgaris* L. (Rosaceae) *Galerucella nymphaeae* (Linnaeus)
- Alder (see *Alnus*)
- Alfalfa (see *Medicago sativa* L.)
- Alliaria officinalis* Andrzej. ex DC. (Brassicaceae) (see *Alliaria petiolata* (Bieb.) Cavara & Grande)
- Alliaria petiolata* (Bieb.) Cavara & Grande (Brassicaceae) *Phyllotreta cruciferae* (Goeze), *P. undulata* (Kutschera), *Psylliodes chrysocephalus* (Linnaeus), *P. napi* (Fabricius)
- Alliaria* sp. (Brassicaceae) *Phyllotreta punctulata* (Marsham)
- Alligatorweed (see *Alternanthera philoxeroides* (Mart.) Griseb.)
- Allium cepa* L. (Liliaceae) *Acalymma vittatum* (Fabricius), *Leptinotarsa decemlineata* (Say), *Systema blanda* Melsheimer
- Allium drummondii* Regel (Liliaceae) *Diabrotica undecimpunctata* Mannerheim
- Allium helleri* Small (Liliaceae) (see *Allium drummondii* Regel)
- Allium porrum* L. (Liliaceae) *Diabrotica balteata* LeConte
- Allium stellatum* Nutt. ex Ker Gawl. (Liliaceae) *Diabrotica cristata* (Harris)
- Allium* sp. (Liliaceae) *Disonychia xanthomelas* (Dalman), *Epitrix cucumeris* (Harris), *Lilioceris lili* (Scopoli), *Ophraella communis* LeSage
- Allowissadula holosericea* (Scheele) D. M. Bates (Malvaceae) *Brachycoryna melsheimeri* (Crotch), *B. pumila* Guérin-Méneville
- Allowissadula lozanii* (Rose) Bates (Malvaceae) *Chaetocnema quadricollis* Schwarz
- Almond (see *Prunus dulcis* (Mill.) D. A. Webb)
- Alnus crispa* (Ait.) Pursh (Betulaceae) *Altica ambiens* LeConte, *Chrysomela mainensis* Bechyné
- Alnus glutinosa* (L.) Gaertn. (Betulaceae) *Agelastica alni* (Linnaeus), *Altica chalybea* Illiger, *Calligrapha confluens* Schaeffer, *C. scalaris* (LeConte)
- Alnus incana* (L.) Moench (Betulaceae) *Agelastica alni* (Linnaeus), *Altica ambiens* LeConte, *A. bimarginata* Say, *A. corni* Woods, *Anomoea laticlavata* (Forster), *Baliosus nervosus* (Panzer), *Brachypnoea puncticollis* (Say), *Calligrapha alni* Schaeffer, *C. alnicola* Brown, *C. amelia* Knab, *C. apicalis* Notman, *C. confluens* Schaeffer, *Chrysomela interrupta* Fabricius, *C. mainensis* Bechyné, *C. walshi* Brown, *Galerucella nymphaeae* (Linnaeus), *Lexiphanes saponatus* (Fabricius), *Neochlamisus alni* (Brown), *N. bebbianae* (Brown), *N. chamaedaphnes* (Brown), *Plateumaris metallica* (Ahrens), *Syneta ferruginea* (Germar), *Systema frontalis* (Fabricius), *Tricholochmaea alni* (Fall), *T. spiraeae* (Fall)
- Alnus jorullensis* Kunth in H. B. K. (Betulaceae) *Zygogramma piceicollis* (Stål)
- Alnus oblongifolia* J. Torr. (Betulaceae) *Altica guatemalensis* Jacoby
- Alnus oregona* Nutt. (Betulaceae) (see *Alnus rubra* Bong.)
- Alnus rhombifolia* Nutt. (Betulaceae) *Altica ambiens* LeConte, *Pachybrachis circumcinctus* Crotch
- Alnus rubra* Bong. (Betulaceae) *Altica ambiens* LeConte, *A. bimarginata* Say, *A. tombacina* Mannerheim, *Chrysomela mainensis* Bechyné, *Tricholochmaea punctipennis* (Mannerheim)
- Alnus rugosa* (Du Roi) Spreng. (Betulaceae) (see *Alnus incana* (L.) Moench)

- Alnus serrulata* (Ait.) Willd. (Betulaceae) *Altica ambiens* LeConte, *A. bimarginata* Say, *A. chalybea* Illiger, *Baliosus nervosus* (Panzer), *Calligrapha alni* Schaeffer, *Chrysomela interrupta* Fabricius, *Neochlamisus alni* (Brown), *N. bebbianae* (Brown), *Odontota scapularis* (Olivier), *Orsodacne atra* (Ahrens)
- Alnus tenuifolia* Nutt. (Betulaceae) *Altica bimarginata* Say, *Chrysomela falsa* Brown, *C. mainensis* Bechyné, *Galerucella nymphaeae* (Linnaeus), *Tricholochmaea punctipennis* (Mannerheim)
- Alnus vulgaris* Hill (Betulaceae) (see *Alnus glutinosa* (L.) P. Gaertn.)
- Alnus* sp. (Betulaceae) *Altica prasina* LeConte, *Bassareus brun-nipes* (Olivier), *B. clathratus* (Melsheimer), *B. formosus* (Melsheimer), *Bromius obscurus* (Linnaeus), *Calligrapha multiguttata* Stål, *C. multipunctata* (Say), *C. philadelphica* (Linnaeus), *C. vicina* Schaeffer, *Capraita subvittata* (Horn), *Chrysomela aeneicollis* (Schaeffer), *C. confluens* Rogers, *C. crotchii* Brown, *C. lineatopunctata* Forster, *C. schaefferi* Brown, *C. scripta* Fabricius, *Colaspis favosa* Say, *Crepidodera nana* (Say), *Cryptocephalus castaneus* LeConte, *C. quadruplex* Newman, *C. venustus* Fabricius, *Gonioctena americana* (Schaeffer), *Neochlamisus eubati* (Brown), *N. gibbosus* (Fabricius), *Octotoma plicatula* (Fabricius), *Pachybrachis litigiosus* Suffrian, *P. spumarius* Suffrian, *Phyllobrotica leechi* Blake, *Plagioderma californica* (Rogers), *Plateumaris pusilla* (Say), *Syneta albida* LeConte, *S. hamata* Horn, *Systema marginalis* (Illiger), *Tricholochmaea decora* (Say), *Typophorus pumilus* (LeConte), *Xanthogaleruca luteola* (Müller)
- Alopecurus geniculatus* L. (Poaceae) *Myochrous denticollis* (Say)
- Alopecurus pratensis* L. (Poaceae) *Oulema melanopus* (Linnaeus)
- Aloysia gratissima* (Gillies & Hook.) Troncoso (Verbenaceae) *Chaetocnema pinguis* LeConte, *Omophoi-ta cyanipennis* (Fabricius)
- Alpine fir (see *Abies lasiocarpa* (Hook.) Nutt.)
- Alpine rock cress (see *Arabis alpina* L.)
- Alsike clover (see *Trifolium hybridum* L.)
- Alternanthera bettzickiana* Nich. (Amaranthaceae) *Disonycha collata* (Fabricius)
- Alternanthera obovata* (M. Martens & Galeotti) Millsp. (Amaranthaceae) . . *Disonycha collata* (Fabricius)
- Alternanthera philoxeroides* (Mart.) Griseb. (Amaranthaceae) *Agasicles hygrophila* Selman & Vogt, *Disonycha collata* (Fabricius), *D. glabrata* (Fabricius), *D. xanthomelas* (Dalman), *Systema pallicornis* Schaeffer
- Alternanthera pungens* Kunth in H. B. K. (Amaranthaceae) *Disonycha collata* (Fabricius)
- Alternanthera sessilis* (L.) DC. (Amaranthaceae) *Disonycha collata* (Fabricius)
- Alternate-leaved dogwood (see *Cornus alternifolia* L. f.)
- Althaea officinalis* L. (Malvaceae) *Altica chalybea* Illiger, *Chaetocnema quadricollis* Schwarz, *Systema frontalis* (Fabricius)
- Althaea* sp. (Malvaceae) *Calligrapha sigmoidea* (LeConte), *Metri-oidea varicornis* (LeConte)
- Althea (see *Alcea*, *Althaea*, *Hibiscus*)
- Alyssum (see *Alyssum*, *Berteroa*, *Lobularia*, etc.)
- Alyssum maritimum* (L.) Lam. (Brassicaceae) (see *Lobularia maritima* (L.) Desv.)
- Alyssum* sp. (Brassicaceae) *Galeruca browni* Blake, *Phyllotreta albi-onica* (LeConte), *P. cruciferae* (Goeze)
- Amaranth (see *Amaranthus*)
- Amaranthus albus* L. (Amaranthaceae) *Psylliodes punctulatus* Melsheimer
- Amaranthus ascendens* Lois. (Amaranthaceae) *Cassida nebulosa* Linnaeus
- Amaranthus berlandieri* (Moq.) Uline & W. I. Bray (Amaranthaceae) . . *Disonycha collata* (Fabricius)
- Amaranthus blitoides* S. Wats. (Amaranthaceae) *Systema blanda* Melsheimer
- Amaranthus caudatus* L. (Amaranthaceae) *Chaetocnema concinna* (Marsham), *Disonycha glabrata* (Fabricius), *Longitarsus pellucidus* (Foudras), *Phyllotreta cruciferae* (Goeze), *Psyl-liodes chrysocephalus* (Linnaeus)
- Amaranthus celosoides* Kunth (Amaranthaceae) *Disonycha glabrata* (Fabricius)
- Amaranthus cruentus* L. (Amaranthaceae) *Disonycha glabrata* (Fabricius)
- Amaranthus dubius* Mart. (Amaranthaceae) *Diabrotica balteata* LeConte, *Disonycha glabrata* (Fabricius)
- Amaranthus gangeticus* L. (Amaranthaceae) (see *Amaranthus tricolor* L.)
- Amaranthus graecizans* L. (Amaranthaceae) *Psylliodes punctulatus* Melsheimer, *Sys-tena blanda* Melsheimer
- Amaranthus hybridus* L. (Amaranthaceae) *Diabrotica longicornis* (Say), *D. virgifera* LeConte

Leaf Beetles Listed by Plants

- Amaranthus mangostanus* L. (Amaranthaceae) (see *Amaranthus tricolor* L.)
- Amaranthus palmeri* S. Wats. (Amaranthaceae) *Disonycha politula* Horn
- Amaranthus retroflexus* L. (Amaranthaceae) *Chaetocnema concinna* (Marshall), *C. confinis* Crotch, *C. pulicaria* Melsheimer, *Diabrotica balteata* LeConte, *D. barberi* Smith & Lawrence, *D. longicornis* (Say), *D. undecimpunctata* Mannerheim, *D. virgifera* LeConte, *Disonycha collata* (Fabricius), *D. discoidea* (Fabricius), *D. glabrata* (Fabricius), *D. triangularis* (Say), *D. xanthomelas* (Dalman), *Epitrix cucumeris* (Harris), *E. fasciata* Blatchley, *Erynephala puncticollis* (Say), *Leptinotarsa decemlineata* (Say), *Longitarsus pellucidus* (Foudras), *Paria thoracica* (Melsheimer), *Phyllotreta cruciferae* (Goeze), *Psylliodes chrysocephalus* (Linnaeus), *P. punctulatus* Melsheimer, *Systema blanda* Melsheimer, *S. frontalis* (Fabricius)
- Amaranthus spinosus* L. (Amaranthaceae) *Brachypnoea clypealis* (Horn), *B. tristis* (Olivier), *Diabrotica balteata* LeConte, *Disonycha caroliniana* (Fabricius), *D. collata* (Fabricius), *D. discoidea* (Fabricius), *D. glabrata* (Fabricius), *D. triangularis* (Say), *D. xanthomelas* (Dalman), *Epitrix cucumeris* (Harris), *Systema blanda* Melsheimer
- Amaranthus tricolor* L. (Amaranthaceae) *Cassida nebulosa* Linnaeus, *Disonycha glabrata* (Fabricius)
- Amaranthus viridis* L. (Amaranthaceae) *Disonycha glabrata* (Fabricius)
- Amaranthus* sp. (Amaranthaceae) *Acalymma vittatum* (Fabricius), *Cassida nobilis* Linnaeus, *Lema daturaphila* Kogan & Goeden, *L. pubipes* Clark, *L. trivittata* Say, *Systema hudsonias* (Forster)
- Amberboa moschata* (L.) DC. (Asteraceae) *Psylliodes chalcomerus* (Illiger)
- Ambrosia acanthicarpa* Hook. (Asteraceae) *Altica carinata* Germar, *Diabrotica undecimpunctata* Mannerheim, *Diachus auratus* (Fabricius), *Exema conspersa* (Mannerheim), *Microrhopala rubrolineata* (Mannerheim), *Phyllotreta viridicyanea* Chittenden, *Saxinis saucia* LeConte
- Ambrosia ambrosioides* (Cav.) Payne (Asteraceae) *Exema deserti* Pierce, *Metacycla insolita* (LeConte), *Microrhopala rubrolineata* (Mannerheim), *Physonota arizonae* Schaeffer
- Ambrosia aptera* DC. (Asteraceae) *Colaspis melaina* Blake
- Ambrosia artemisiifolia* L. (Asteraceae) *Brachypnoea clypealis* (Horn), *Calligrapha bidenticola* Brown, *Diabrotica longicornis* (Say), *Ophraella arctica* LeSage, *O. artemisiae* Futuyma, *O. communis* LeSage, *O. conferta* (LeConte), *O. notata* (Fabricius), *O. notulata* (Fabricius), *O. nuda* LeSage, *O. slobodkini* Futuyma, *Systema blanda* Melsheimer, *S. elongata* (Fabricius), *S. frontalis* (Fabricius), *S. hudsonias* (Forster), *Zygogramma conjuncta* (Rogers), *Z. disrupta* (Rogers), *Z. malvae* (Stål), *Z. piceicollis* (Stål), *Z. suturalis* (Fabricius), *Z. tortuosa* (Rogers)
- Ambrosia bipinnatifida* (Nutt.) Greene (Asteraceae) *Exema conspersa* (Mannerheim)
- Ambrosia chamissonis* (Less.) Greene (Asteraceae) *Diachus auratus* (Fabricius), *Exema conspersa* (Mannerheim), *Microrhopala xerene* (Newman)
- Ambrosia chenopodiifolia* (Benth.) W. W. Payne (Asteraceae) *Exema deserti* Pierce, *Microrhopala rubrolineata* (Mannerheim), *Ophraella notulata* (Fabricius), *Zygogramma tortuosa* (Rogers)
- Ambrosia confertiflora* DC. (Asteraceae) *Chrysodinaopsis basalis* (Jacoby), *Diabrotica undecimpunctata* Mannerheim, *Diachus auratus* (Fabricius), *Exema conspersa* (Mannerheim), *Microrhopala rubrolineata* (Mannerheim), *Ophraella communis* LeSage, *O. notulata* (Fabricius), *Saxinis saucia* LeConte, *Systema blanda* Melsheimer, *Zygogramma disrupta* (Rogers), *Z. tortuosa* (Rogers)
- Ambrosia cumanensis* Kunth (Asteraceae) *Ophraella communis* LeSage
- Ambrosia deltoidea* (Torr.) Payne (Asteraceae) *Exema deserti* Pierce
- Ambrosia dumosa* (A. Gray) W. W. Payne (Asteraceae) *Altica torquata* LeConte, *Exema deserti* Pierce, *Microrhopala rubrolineata* (Mannerheim), *Ophraella notulata* (Fabricius), *Zygogramma tortuosa* (Rogers)
- Ambrosia elatior* L. (Asteraceae) (see *Ambrosia artemisiifolia* L.)
- Ambrosia eriocentra* (Gray) Payne (Asteraceae) *Exema deserti* Pierce, *Ophraella notulata* (Fabricius), *Systema blanda* Melsheimer, *Zygogramma tortuosa* (Rogers)
- Ambrosia grayi* (A. Nelson) Shinnars (Asteraceae) (see *Franseria tomentosa* A. Gray)
- Ambrosia ilicifolia* (Gray) Payne (Asteraceae) *Ophraella notulata* (Fabricius), *Zygogramma tortuosa* (Rogers)
- Ambrosia psilostachya* DC. (Asteraceae) *Brachypnoea tristis* (Olivier), *Diabrotica undecimpunctata* Mannerheim, *Diachus auratus* (Fabricius), *Exema conspersa* (Mannerheim), *E. deserti* Pierce, *E. dispar* Lacordaire, *Microrhopala xerene* (Newman), *Myochrous denticollis* (Say), *Ophraella communis* LeSage, *O. notulata* (Fabricius), *O. nuda* LeSage, *Phyllotreta zimmermanni* (Crotch), *Systema blanda* Melsheimer, *Zygogramma disrupta* (Rogers), *Z. suturalis* (Fabricius), *Z. tortuosa* (Rogers)

- Ambrosia pumila* (Nutt.) Gray (Asteraceae) *Zygogramma tortuosa* (Rogers)
- Ambrosia trifida* L. (Asteraceae) *Acalymma vittatum* (Fabricius), *Brachypnoea clypealis* (Horn), *B. convexa* (Say), *Calligrapha californica* Linell, *C. praeclasis* (Rogers), *Cryptocephalus venustus* Fabricius, *Deloyala guttata* (Olivier), *Diabrotica longicornis* (Say), *D. undecimpunctata* Mannerheim, *D. virgifera* LeConte, *Epitrix fasciata* Blatchley, *E. hirtipennis* (Melsheimer), *Exema dispar* Lacordaire, *Ophraella communis* LeSage, *Pachybrachis atomarius* (Melsheimer), *Systema blanda* Melsheimer, *S. frontalis* (Fabricius), *S. hudsonias* (Forster), *Zygogramma suturalis* (Fabricius)
- Ambrosia* sp. (Asteraceae) *Acalymma vinctum* (LeConte), *Anomoea laticlavata* (Forster), *Brachypnoea margaretae* (Schultz), *Cerotoma trifurcata* (Forster), *Chaetocnema pulicaria* Melsheimer, *Cryptocephalus albicans* Haldeman, *Diabrotica balteata* LeConte, *D. barberi* Smith & Lawrence, *Disonycha glabrata* (Fabricius), *D. triangularis* (Say), *Epitrix cucumeris* (Harris), *E. fuscata* Crotch, *Exema canadensis* Pierce, *E. gibber* (Fabricius), *Luperaltica nigripalpis* (LeConte), *L. senilis* (Say), *Mantura floridana* Crotch, *Metachroma texanum* Schaeffer, *Neolema cordata* White, *Pachybrachis lodingi* Bowditch, *Systema marginalis* (Illiger)
- Amelanchier arborea* (F. Michx.) Fern. (Rosaceae) *Orsodacne atra* (Ahrens)
- Amelanchier botryapium* DC. (Rosaceae) (see *Amelanchier canadensis* Medik.)
- Amelanchier canadensis* Medik. (Rosaceae) *Acalymma vittatum* (Fabricius), *Altica ulmi* Woods, *Baliosus nervosus* (Panzer), *Brachypnoea tristis* (Olivier), *Calligrapha philadelphia* (Linnaeus), *Capraita circumdata* (Randall), *Disonycha pensylvanica* (Illiger), *Orsodacne atra* (Ahrens), *Systema marginalis* (Illiger)
- Amelanchier laevis* Wiegand (Rosaceae) *Acalymma vittatum* (Fabricius), *Baliosus nervosus* (Panzer)
- Amelanchier oblongifolia* (T. & G) Roem. (Rosaceae) (see *Amelanchier canadensis* Medik.)
- Amelanchier ovalis* Medik. (Rosaceae) *Acalymma vittatum* (Fabricius), *Sumitrosis rosea* (Weber)
- Amelanchier* sp. (Rosaceae) *Capraita subvittata* (Horn), *Coleothorpa mucorea* (LeConte), *Crepidodera violacea* Melsheimer
- American cranberrybush viburnum (see *Viburnum trilobum* Marshall)
- American elm (see *Ulmus americana* L.)
- Amianthium muscaetoxicum* (Walt.) Gray (Liliaceae) *Odontota dorsalis* (Thunberg)
- Ammannia auriculata* Willd. (Lythraceae) *Neogalerucella californiensis* (Linnaeus), *N. pusilla* (Duftschmid)
- Ammannia coccinea* Rottb. (Lythraceae) *Neogalerucella californiensis* (Linnaeus), *N. pusilla* (Duftschmid), *Systema frontalis* (Fabricius)
- Ammannia latifolia* L. (Lythraceae) *Neogalerucella californiensis* (Linnaeus), *N. pusilla* (Duftschmid)
- Ammannia robusta* Herr & Regel (Lythraceae) (see *Ammannia coccinea* Rottb.)
- Ammobium alatum* R. Br. (Asteraceae) *Longitarsus succineus* (Foudras)
- Amorpha canescens* Pursh (Fabaceae) *Anomoea laticlavata* (Forster), *Babia quadriguttata* (Olivier), *Brachypnoea puncticollis* (Say), *B. tristis* (Olivier), *Cryptocephalus calidus* Suffrian, *Diabrotica cristata* (Harris), *D. undecimpunctata* Mannerheim, *Neochlamisus gibbosus* (Fabricius), *Odontota horni* Smith, *Pachybrachis atomarius* (Melsheimer), *P. luridus* (Fabricius), *P. nigricornis* (Say), *P. othonus* (Say), *Phyllecthris dorsalis* (Olivier), *P. gentilis* (LeConte)
- Amorpha fruticosa* L. (Fabaceae) *Anomoea flavokansiensis* Moldenke, *A. laticlavata* (Forster), *Bassareus brunnipes* (Olivier), *B. mammifer* (Newman), *Cryptocephalus nanus* Fabricius, *Diabrotica cristata* (Harris), *D. undecimpunctata* Mannerheim, *Diachus auratus* (Fabricius), *Odontota arizonica* (Uhmann), *O. dorsalis* (Thunberg), *Pachybrachis abdominalis* (Say), *Phyllecthris dorsalis* (Olivier), *Phyllotreta striolata* (Fabricius), *Sumitrosis rosea* (Weber)
- Amorpha glabra* Desf. (Fabaceae) *Sumitrosis rosea* (Weber)
- Amorpha* sp. (Fabaceae) *Coleothorpa axillaris* (LeConte), *C. dominicana* (Fabricius), *Diabrotica virgifera* LeConte
- Ampelamus albidus* (Nutt.) N. L. Britt. (Asclepiadaceae) *Labidomera clivicollis* (Kirby), *Leptinotarsa decemlineata* (Say)
- Ampelopsis arborea* (L.) Koehne (Vitaceae) *Capraita saltatra* (Blatchley), *Diabrotica virgifera* LeConte, *Fidia longipes* (Melsheimer), *F. viticida* Walsh, *Rhabdopterus praetextus* (Say)
- Ampelopsis cordata* Michx. (Vitaceae) *Fidia viticida* Walsh
- Ampelopsis* sp. (Vitaceae) *Anomoea flavokansiensis* Moldenke, *Bromius obscurus* (Linnaeus), *Diachus auratus* (Fabricius), *Triachus postremus* LeConte
- Amphicarpaea bracteata* (L.) Fern. (Fabaceae) *Cerotoma trifurcata* (Forster), *Odontota*

Leaf Beetles Listed by Plants

- dorsalis* (Thunberg), *O. horni* Smith, *O. mundula* (Sanderson), *O. scapularis* (Olivier), *Phyllecthris dorsalis* (Olivier), *Sumitrosis rosea* (Weber)
- Amphicarpaea monoica* (L.) Ell. (Fabaceae) (see *Amphicarpaea bracteata* (L.) Fern)
- Amsinckia carinata* Nels. & Macbr. (Boraginaceae) *Longitarsus quadriguttatus* (Pontoppidan)
- Amsinckia tessellata* A. Gray (Boraginaceae) *Longitarsus quadriguttatus* (Pontoppidan)
- Amsinckia* sp. (Boraginaceae) *Longitarsus mancus* LeConte
- Anagallis* sp. (Primulaceae) *Phaedon armoraciae* (Linnaeus)
- Ananas comosus* (L.) Merr. (Bromeliaceae) *Metachroma longicollis* Jacoby, *Myochrous cyphus* Blake
- Ananas sativus* Schult. & Schult. f. (Bromeliaceae) *Omophoita cyanipennis* (Fabricius)
- Ananas* sp. (Bromeliaceae) *Strabala acuminata* Blake
- Anchusa azurea* P. Mill. (Boraginaceae) *Longitarsus quadriguttatus* (Pontoppidan)
- Anchusa officinalis* L. (Boraginaceae) *Longitarsus quadriguttatus* (Pontoppidan)
- Androcera* sp. (Solanaceae) (see *Solanum*)
- Andromeda* sp. (Ericaceae) *Disonycha caroliniana* (Fabricius)
- Andropogon furcatus* Muhl. ex Willd. (Poaceae) (see *Andropogon gerardii* Vitman)
- Andropogon gerardii* Vitman (Poaceae) *Chaetocnema confinis* Crotch, *C. fuscata* White, *Diabrotica cristata* (Harris), *Glyphuroplata pluto* (Newman), *Luperaltica nigripalpis* (LeConte)
- Andropogon sorghum* (L.) Brot. (Poaceae) (see *Sorghum arundinaceum* (Desv.) Stapf.)
- Andropogon virginicus* L. (Poaceae) *Agroiconota bivittata* (Say), *Capraitia indigoptera* (LeConte), *Cerotoma trifurcata* (Forster), *Chaetocnema denticulata* (Illiger), *Chelymorpha cassidea* (Fabricius), *Disonycha admirabilia* Blatchley, *Distigmoptera pilosa* (Illiger), *Galerucella nymphaeae* (Linnaeus), *Graphops curtipennis* (Melsheimer), *Gratiana pallidula* (Boheman), *Hornaltica bicolorata* (Horn), *Kuschelina concinna* (Fabricius), *K. miniata* (Fabricius), *Margaridisa atriventris* (Melsheimer), *Myochrous denticollis* (Say), *Ophraella notulata* (Fabricius), *Parchicola tibialis* (Olivier), *Paria fragariae* Wilcox, *P. sexnotata* (Say), *Stenispia metallica* (Fabricius)
- Andropogon* sp. (Poaceae) *Anisostena nigrita* (Olivier), *Oulema melanopus* (Linnaeus), *Pseudodibolia opima* (LeConte)
- Anemone* (see *Anemone*)
- Anemone* sp. (Ranunculaceae) *Metrioidea blakeae* (Wilcox)
- Anemopsis californica* Hook. & Arn. (Saururaceae) *Cryptocephalus castaneus* LeConte
- Angelica genyflexa* Nutt. ex Torr. & A. Gray (Apiaceae) *Plateumaris neomexicana* (Schaeffer)
- Angelica* sp. (Apiaceae) *Phaedon oviformis* (LeConte)
- Angel's trumpet (see *Datura innoxia* P. Mill.)
- Anisacanthus thurberi* (Torr.) Gray (Acanthaceae) *Kuschelina tenuilineata* (Horn)
- Anise (see *Pimpinella anisum* L.)
- Anisodus luridus* Link (Solanaceae) *Leptinotarsa decemlineata* (Say)
- Annona cherimola* Mill. (Annonaceae) *Cryptocephalus trizonatus* Suffrian
- Annona muricata* L. (Annonaceae) *Disonycha glabrata* (Fabricius)
- Annona reticulata* L. (Annonaceae) *Colaspis brunnea* (Fabricius)
- Annona squamosa* L. (Annonaceae) *Omophoita cyanipennis* (Fabricius)
- Anoda cristata* (L.) Schlecht. (Malvaceae) *Zygogramma malvae* (Stål), *Z. piceicollis* (Stål)
- Anthemis cotula* L. (Asteraceae) *Diabrotica undecimpunctata* Mannerheim, *Longitarsus cotulus* Blatchley, *Neolema sexpunctata* (Olivier), *Systema blanda* Melsheimer
- Anthemis pedunculata* Desf. (Asteraceae) *Longitarsus succineus* (Foudras)
- Antirrhinum* sp. (Scrophulariaceae) *Kuschelina barberi* (Blake)
- Apios americana* Medik. (Fabaceae) *Cerotoma trifurcata* (Forster), *Diabrotica undecimpunctata* Mannerheim, *Diplacaspis prosternalis* (Schaeffer), *Exema byersi* Karren, *Odontota scapularis* (Olivier), *Systema frontalis* (Fabricius)
- Apios tuberosa* Moench (Fabaceae) (see *Apios americana* Medik.)
- Apium graveolens* L. (Apiaceae) *Chaetocnema minuta* Melsheimer, *Epitrix cucumeris* (Harris), *Longitarsus melanurus* (Melsheimer)
- Apium* sp. (Apiaceae) *Diabrotica undecimpunctata* Mannerheim, *Disonycha collata* (Fabricius), *D. triangularis* (Say), *Epitrix hirtipennis* (Melsheimer), *E. subcrinita* (LeConte), *Phyllotreta striolata* (Fabricius), *Systema elongata* (Fabricius)
- Aplopappus* sp. (Asteraceae) (see *Haplopappus*)
- Apocynum androsaemifolium* L. (Apocynaceae) *Brachypnoea puncticollis* (Say), *Chryso-*

<i>chus auratus</i> (Fabricius), <i>C. cobaltinus</i> LeConte, <i>Lexiphanes saponatus</i> (Fabricius), <i>Paria aterrima</i> (Olivier), <i>Scelolyperus lecontei</i> (Crotch), <i>Systema blanda</i> Melsheimer	
<i>Apocynum cannabinum</i> L. (Apocynaceae)	<i>Chrysochus auratus</i> (Fabricius), <i>C. cobaltinus</i> LeConte, <i>Lexiphanes saponatus</i> (Fabricius), <i>Systema frontalis</i> (Fabricius)
<i>Apocynum x floribundum</i> Greene (Apocynaceae)	<i>Chrysochus auratus</i> (Fabricius)
<i>Apocynum viride</i> Wooton & Standley (Apocynaceae)	<i>Chrysochus cobaltinus</i> LeConte
<i>Apocynum</i> sp. (Apocynaceae)	<i>Chelymorpha cassidea</i> (Fabricius), <i>Epitrix cucumeris</i> (Harris), <i>Systema carri</i> Blake
<i>Apodanthera undulata</i> Gray (Cucurbitaceae)	<i>Luperosoma subsulcatum</i> (Horn)
Apple	(see <i>Malus sylvestris</i> P. Mill.)
Apricot	(see <i>Prunus armeniaca</i> L.)
<i>Aquilegia</i> sp. (Ranunculaceae)	<i>Charidotella sexpunctata</i> (Fabricius)
<i>Arabis alpina</i> L. (Brassicaceae)	<i>Phyllotreta pusilla</i> Horn, <i>P. striolata</i> (Fabricius)
<i>Arabis glabra</i> (L.) Bernh. (Brassicaceae)	<i>Phyllotreta cruciferae</i> (Goeze)
<i>Arabis ludoviciana</i> Mey. (Brassicaceae)	<i>Phyllotreta zimmermanni</i> (Crotch)
<i>Arabis turrita</i> L. (Brassicaceae)	<i>Phyllotreta cruciferae</i> (Goeze), <i>P. undulata</i> (Kutschera)
<i>Arabis virginica</i> (L.) Poir. (Brassicaceae)	<i>Phyllotreta liebecki</i> Schaeffer
<i>Arabis</i> sp. (Brassicaceae)	<i>Galeruca browni</i> Blake, <i>G. externa</i> Say, <i>Phyllotreta albionica</i> (LeConte), <i>P. conjuncta</i> Gentner, <i>P. punctulata</i> (Marsham)
<i>Arachis hypogaea</i> L. (Fabaceae)	<i>Acalymma vittatum</i> (Fabricius), <i>Bassareus brunnipes</i> (Olivier), <i>Cerotoma trifurcata</i> (Forster), <i>Chaetocnema ectypa</i> Horn, <i>Colaspis brunnea</i> (Fabricius), <i>C. floridana</i> Schaeffer, <i>Cryptocephalus mutabilis</i> Melsheimer, <i>Diabrotica balteata</i> LeConte, <i>D. undecimpunctata</i> Mannerheim, <i>Odontota dorsalis</i> (Thunberg), <i>Systema blanda</i> Melsheimer, <i>S. elongata</i> (Fabricius)
<i>Arachis</i> sp. (Fabaceae)	<i>Cerotoma atrofasciata</i> Jacoby
<i>Arachus vicioides</i> Medik. (Fabaceae)	(see <i>Vicia bithynica</i> (L.) L.)
<i>Aralia nudicaulis</i> L. (Araliaceae)	<i>Epitrix cucumeris</i> (Harris)
<i>Aralia spinosa</i> L. (Araliaceae)	<i>Griburius montezuma</i> (Suffrian), <i>Orthaltica copalina</i> (Fabricius)
Arbutus	(see <i>Arbutus</i>)
<i>Arbutus</i> sp. (Ericaceae)	<i>Epitrix cucumeris</i> (Harris)
<i>Arctium lappa</i> L. (Asteraceae)	<i>Cassida rubiginosa</i> Müller, <i>Epitrix fasciata</i> Blatchley, <i>Systema frontalis</i> (Fabricius)
<i>Arctium major</i> Gaertn. (Asteraceae)	(see <i>Arctium lappa</i> L.)
<i>Arctium majus</i> (Gaertn.) Bernh. (Asteraceae)	(see <i>Arctium lappa</i> L.)
<i>Arctium minus</i> (Hill) Bernh. (Asteraceae)	<i>Altica carduorum</i> Guérin-Méneville, <i>Cassida rubiginosa</i> Müller, <i>Epitrix cucumeris</i> (Harris), <i>E. fuscula</i> Crotch, <i>Systema blanda</i> Melsheimer, <i>S. frontalis</i> (Fabricius), <i>S. hudsonias</i> (Forster)
<i>Arctium</i> sp. (Asteraceae)	<i>Acalymma vittatum</i> (Fabricius), <i>Chaetocnema confinis</i> Crotch, <i>Diabrotica undecimpunctata</i> Mannerheim, <i>Donacia subtilis</i> Kunze, <i>Epitrix hirtipennis</i> (Melsheimer)
<i>Arctostaphylos patula</i> E. L. Greene (Ericaceae)	<i>Altica bimarginata</i> Say, <i>Colaspidea smaragdula</i> (LeConte), <i>Cryptocephalus sanguinicollis</i> Suffrian, <i>Glyptoscelis juniperi</i> Blake, <i>Pachybrachis m-nigrum</i> (Melsheimer), <i>P. relictus</i> Fall, <i>Saxinis saucia</i> LeConte, <i>Typophorus nigrinus</i> (Fabricius)
<i>Arctostaphylos</i> sp. (Ericaceae)	<i>Scelolyperus torquatus</i> (LeConte), <i>S. varipes</i> (LeConte), <i>Tymnes oregonensis</i> (Crotch)
<i>Arecastnum romanzoffianum</i> (Cham.) Becc. (Arecaceae)	<i>Hemisphaerota cyanea</i> (Say)
<i>Arenaria balearica</i> L. (Caryophyllaceae)	<i>Cassida azurea</i> Fabricius
<i>Arenaria peploides</i> L. (Caryophyllaceae)	<i>Cassida flaveola</i> Thunberg
<i>Arenaria serpyllifolia</i> L. (Caryophyllaceae)	<i>Cassida azurea</i> Fabricius
<i>Argemone mexicana</i> L. (Papaveraceae)	(see <i>Argemone ochroleuca</i> Sweet)
<i>Argemone ochroleuca</i> Sweet (Papaveraceae)	<i>Epitrix cucumeris</i> (Harris)
<i>Argemone</i> sp. (Papaveraceae)	<i>Leptinotarsa lineolata</i> (Stål)
Argentine rape	(see <i>Brassica napus</i> L.)
<i>Argythamnia lanceolata</i> (Benth.) Muell.-Arg. (Euphorbiaceae)	<i>Syphrea flavicollis</i> (Jacoby)
<i>Argythamnia neomexicana</i> Muell.-Arg. (Euphorbiaceae)	<i>Syphrea flavicollis</i> (Jacoby)
<i>Argythamnia serrata</i> (Torr.) Muell.-Arg. (Euphorbiaceae)	<i>Syphrea flavicollis</i> (Jacoby)

Leaf Beetles Listed by Plants

- Arizona cyprus (see *Cupressus arizonica* E. L. Greene)
- Armoracia lapathifolia* Gilib. (Brassicaceae) (see *Armoracia rusticana* (Lam.) P. G. Gaertn., B. Mey., & Scherb.)
- Armoracia rusticana* (Lam.) P. G. Gaertn., B. Mey., & Scherb. (Brassicaceae) . *Charidotella sexpunctata* (Fabricius), *Chelymorpha cassidea* (Fabricius), *Diabrotica undecimpunctata* Mannerheim, *Disonycha xanthomelas* (Dalman), *Entomoscelis americana* Brown, *Epitrix cucumeris* (Harris), *E. tuberosa* Gentner, *Phaedon armoraciae* (Linnaeus), *P. laevigatus* (Duftschmid), *Phyllotreta albionica* (LeConte), *P. armoraciae* (Koch), *P. bipustulata* (Fabricius), *P. conjuncta* Gentner, *P. cruciferae* (Goeze), *P. oblonga* Chittenden, *P. punctulata* (Marsham), *P. pusilla* Horn, *P. striolata* (Fabricius), *P. undulata* (Kutschera), *P. zimmermanni* (Crotch), *Systema blanda* Melsheimer, *S. frontalis* (Fabricius)
- Arnica* sp. (Asteraceae) *Trirhabda pilosa* Blake
- Aronia arbutifolia* (L.) Pers. (Rosaceae) *Acalymma vittatum* (Fabricius), *Baliosus nervosus* (Panzer), *Plateumaris flavipes* (Kirby), *Sumitrosis rosea* (Weber)
- Aronia* sp. (Rosaceae) *Altica subcostata* LeSage
- Arracacia xanthorrhiza* Bancroft (Apiaceae) *Pachybrachis femoratus* (Olivier)
- Arrhenatherum elatius* (L.) P. Beauv. ex J. Presl & C. Presl (Poaceae) . *Oulema melanopus* (Linnaeus)
- Arrow-arum (see *Peltandra virginica* Raf.)
- Arrowhead (see *Sagittaria*)
- Arrow weed (see *Pluchea sericea* (Nutt.) Cov.)
- Arrowwood viburnum (see *Viburnum dentatum* L., *V. recognitum* Fernald)
- Artemisia abrotanum* L. (Asteraceae) *Phyllotreta cruciferae* (Goeze)
- Artemisia absinthium* L. (Asteraceae) *Longitarsus succineus* (Foudras), *Phyllotreta cruciferae* (Goeze)
- Artemisia annua* L. (Asteraceae) *Ophraella communis* LeSage
- Artemisia borealis* Pall. (Asteraceae) *Chrysolina marginata* (Linnaeus)
- Artemisia californica* Less. (Asteraceae) *Acalymma trivittatum* (Mannerheim), *Altica bimarginata* Say, *A. carinata* Germar, *Colaspidea smaragdula* (LeConte), *Coleorozena pilatei* (Lacordaire), *Coleothorpa mucorea* (LeConte), *Cryptocephalus falli* Schöller, *Diabrotica undecimpunctata* Mannerheim, *Diachus auratus* (Fabricius), *Exema conspersa* (Mannerheim), *Monoxia debilis* LeConte, *M. guttulata* (LeConte), *Pachybrachis hybridus* Suffrian, *P. trinotatus* (Melsheimer), *Saxinis saucia* LeConte, *Trirhabda flavolimbata* (Mannerheim), *T. luteocincta* (LeConte), *T. sericotrachyla* Blake
- Artemisia campestris* L. (Asteraceae) *Longitarsus succineus* (Foudras), *Luperaltica senilis* (Say)
- Artemisia cana* Pursh (Asteraceae) *Trirhabda attenuata* (Say), *T. pilosa* Blake
- Artemisia carruthii* A. Wood ex Carruth (Asteraceae) *Ophraella artemisiae* Futuyma, *O. communis* LeSage
- Artemisia douglasiana* Besser (Asteraceae) *Exema conspersa* (Mannerheim), *Glyptoscelis squamulata* Crotch, *Monoxia guttulata* (LeConte), *Ophraella californiana* LeSage, *O. communis* LeSage
- Artemisia dracunculoides* Pursh (Asteraceae) (see *Artemisia dracunculus* L.)
- Artemisia dracunculus* L. (Asteraceae) *Chrysolina flavomarginata* (Say), *Cryptocephalus venustus* Fabricius
- Artemisia filifolia* J. Torr. (Asteraceae) *Cryptocephalus amatus* Haldeman, *C. confluentus* Say, *Metachroma pallidum* (Say), *Trirhabda attenuata* (Say)
- Artemisia frigida* Willd. (Asteraceae) *Distigmoptera borealis* Blake
- Artemisia glauca* Pall. ex Willd. (Asteraceae) *Chrysolina flavomarginata* (Say)
- Artemisia herba-alba* Asso (Asteraceae) *Longitarsus succineus* (Foudras)
- Artemisia heterophylla* Besser (Asteraceae) *Exema conspersa* (Mannerheim), *Glyptoscelis squamulata* Crotch, *Monoxia debilis* LeConte
- Artemisia ludoviciana* Nutt. (Asteraceae) *Distigmoptera borealis* Blake, *Ophraella artemisiae* Futuyma, *Trirhabda attenuata* (Say)
- Artemisia maritima* L. (Asteraceae) *Cassida rubiginosa* Müller
- Artemisia princeps* Pamp. (Asteraceae) *Ophraella communis* LeSage
- Artemisia tilesii* Ledeb. (Asteraceae) *Chrysolina marginata* (Linnaeus)
- Artemisia tridentata* Nutt. (Asteraceae) *Brachycoryna montana* (Horn), *Chaetocnema labiosa* White, *Exema conspersa* (Mannerheim), *E. mormona* Karren, *Glyptoscelis alternata* Crotch, *G. artemisiae* Blake, *G. paula* Blake, *Monoxia grisea* Blake, *Pachybrachis melanostictus*

- Suffrian, *Phyllotreta albionica* (LeConte), *Pseudoluperus longulus* (LeConte), *Trirhabda flavolimbata* (Mannerheim), *T. nigriventris* Blake, *T. nitidicollis* LeConte, *T. pilosa* Blake
- Artemisia tripartita* Rydb. (Asteraceae) *Trirhabda attenuata* (Say)
- Artemisia vulgaris* L. (Asteraceae) *Longitarsus succineus* (Foudras),
Ophraella artemisiae Futuyma, *O. communis* LeSage, *O. notulata* (Fabricius)
- Artemisia* sp. (Asteraceae) *Altica foliaceae* LeConte, *A. prasina* LeConte, *A. subplicata* LeConte, *Brachycoryna dolorosa* Van Dyke, *Chrysolina staphylaea* (Linnaeus), *Cryptocephalus alternans* Suffrian, *C. sanguinicollis* Suffrian, *Glyptoscelis longior* LeConte, *Metachroma californicum* Crotch, *Microrhopala vittata* (Fabricius), *Monoxia consputa* (LeConte), *M. sordida* (LeConte), *Pachybrachis analis* LeConte, *P. caelatus* LeConte, *P. signatifrons* Mannerheim, *Phyllotreta decipiens* Horn, *Scelolyperus curvipes* Wilcox, *Systema blanda* Melsheimer, *S. gracilentia* Blake, *Trirhabda canadensis* (Kirby), *T. confusa* Blake
- Artichoke (see *Cynara scolymus* L.)
- Arum* sp. (Araceae) (see *Calla*, *Colocasia*, *Peltandra*)
- Aruncus sylvestris* Kostel ex Maxim. (Rosaceae) *Disonycha procera* Casey, *Galerucella nymphaeae* (Linnaeus)
- Arundinaria* sp. (Poaceae) *Diabrotica undecimpunctata* Mannerheim, *Exema neglecta* Blatchley, *Monoxia debilis* LeConte
- Asclepias amplexicaulis* Sm. (Asclepiadaceae) *Labidomera clivicollis* (Kirby)
- Asclepias californica* E. L. Greene (Asclepiadaceae) *Chrysochus cobaltinus* LeConte
- Asclepias curassavica* L. (Asclepiadaceae) *Epitrix cucumeris* (Harris), *Omophoita cyanipennis* (Fabricius)
- Asclepias eriocarpa* Benth. (Asclepiadaceae) *Chrysochus cobaltinus* LeConte
- Asclepias exaltata* L. (Asclepiadaceae) *Labidomera clivicollis* (Kirby)
- Asclepias galioides* Kunth (Asclepiadaceae) *Chrysochus cobaltinus* LeConte
- Asclepias incarnata* L. (Asclepiadaceae) *Deloyala guttata* (Olivier), *Labidomera clivicollis* (Kirby)
- Asclepias mexicana* Cav. (Asclepiadaceae) *Chrysochus cobaltinus* LeConte
- Asclepias pulchra* Vell. (Asclepiadaceae) *Labidomera clivicollis* (Kirby)
- Asclepias purpurascens* L. (Asclepiadaceae) *Tricholochmaea cavicollis* (LeConte)
- Asclepias speciosa* J. Torr. (Asclepiadaceae) *Chrysochus cobaltinus* LeConte, *Leptinotarsa decemlineata* (Say), *L. haldemani* (Rogers), *L. rubiginosa* (Rogers), *Scelolyperus lecontei* (Crotch)
- Asclepias sullivantii* Engelm. ex A. Gray (Asclepiadaceae) *Labidomera clivicollis* (Kirby)
- Asclepias syriaca* L. (Asclepiadaceae) *Altica chalybea* Illiger, *A. litigata* Fall, *Aphthona czwalinae* Weise, *Blepharida rhois* (Forster), *Brachypnoea puncticollis* (Say), *Chaetocnema confinis* Crotch, *Charidotella sexpunctata* (Fabricius), *Chelymorpha cassidea* (Fabricius), *Chrysochus auratus* (Fabricius), *Crepidodera nana* (Say), *Crioceris asparagi* (Linnaeus), *Deloyala guttata* (Olivier), *Diabrotica longicornis* (Say), *D. undecimpunctata* Mannerheim, *Disonycha xanthomelas* (Dalman), *Epitrix cucumeris* (Harris), *E. fuscata* Crotch, *Fidia viticida* Walsh, *Labidomera clivicollis* (Kirby), *Lema daturaphila* Kogan & Goeden, *Leptinotarsa decemlineata* (Say), *Longitarsus insolens* Horn, *Odontota dorsalis* (Thunberg), *Paria thoracica* (Melsheimer), *Phyllotreta cruciferae* (Goeze), *P. zimmermanni* (Crotch), *Plagiometriona clavata* (Fabricius), *Psylliodes convexior* LeConte, *P. punctulatus* Melsheimer, *Sumitrosis inaequalis* (Weber), *Systema frontalis* (Fabricius), *Tricholochmaea cavicollis* (LeConte), *Trirhabda virgata* LeConte, *Zygogramma suturalis* (Fabricius)
- Asclepias tuberosa* L. (Asclepiadaceae) *Epitrix fasciata* Blatchley, *E. hirtipennis* (Melsheimer), *Exema byersi* Karren, *Labidomera clivicollis* (Kirby), *Leptinotarsa decemlineata* (Say), *Systema hudsonias* (Forster)
- Asclepias verticillata* L. (Asclepiadaceae) *Diabrotica cristata* (Harris), *Labidomera clivicollis* (Kirby)
- Asclepias* sp. (Asclepiadaceae) *Altica prasina* LeConte, *Babia quadriguttata* (Olivier), *Lexiphanes saponatus* (Fabricius), *Metachroma angustulum* Crotch, *Phyllotreta ramosa* (Crotch), *Zygogramma exclamationis* (Fabricius)
- Ash (see *Fraxinus*)
- Asimina parviflora* (Michx.) Dun. (Annonaceae) *Charidotella sexpunctata* (Fabricius)
- Asimina pygmaea* (Bartr.) Dun. (Annonaceae) *Cryptocephalus aulicus* Haldeman
- Asparagus (see *Asparagus officinalis* L.)
- Asparagus acutifolius* L. (Liliaceae) *Crioceris asparagi* (Linnaeus), *C. duodecimpunctata* (Linnaeus)
- Asparagus densiflorus* (Kunth) Jessop (Liliaceae) *Crioceris asparagi* (Linnaeus)

Leaf Beetles Listed by Plants

- Asparagus-fern (see *Asparagus*)
- Asparagus filifolius* Bertol. (Liliaceae) *Crioceris asparagi* (Linnaeus), *C. duodecimpunctata* (Linnaeus)
- Asparagus officinalis* L. (Liliaceae) *Anomoea laticlavata* (Forster), *Crioceris asparagi* (Linnaeus), *C. duodecimpunctata* (Linnaeus), *Diabrotica balteata* LeConte, *D. undecimpunctata* Mannerheim, *Epitrix hirtipennis* (Melsheimer), *Pachybrachis femoratus* (Olivier), *Zygogramma suturalis* (Fabricius)
- Asparagus plumosus* Baker (Liliaceae) (see *Asparagus setaceus* (Kunth) Jessop)
- Asparagus setaceus* (Kunth) Jessop (Liliaceae) *Crioceris asparagi* (Linnaeus)
- Asparagus sprengeri* Regel (Liliaceae) (see *Asparagus densiflorus* (Kunth) Jessop)
- Asparagus verticillatus* L. (Liliaceae) *Crioceris duodecimpunctata* (Linnaeus)
- Asparagus* sp. (Liliaceae) *Lema daturaphila* Kogan & Goeden, *Lilioceris lili* (Scopoli)
- Aspen (see *Populus*)
- Asperugo procumbens* L. (Boraginaceae) *Longitarsus quadriguttatus* (Pontoppidan)
- Asperula odorata* L. (Rubiaceae) *Longitarsus rubiginosus* (Foudras)
- Aster (see *Aster* and similar genera)
- Aster alpinus* L. (Asteraceae) *Longitarsus jacobaeae* (Waterhouse), *Trirhabda flavolimbata* (Mannerheim)
- Aster anomalus* Engelm. (Asteraceae) (see *Symphytotrichum anomalum* (Engelm.) Nesom)
- Aster ascendens* Lindl. (Asteraceae) (see *Symphytotrichum ascendens* (Lindl.) Nesom)
- Aster chilensis* C. Nees (Asteraceae) (see *Symphytotrichum chilensis* (Nees) Nesom)
- Aster cordifolius* L. (Asteraceae) (see *Symphytotrichum cordifolium* (L.) Nesom)
- Aster divaricatus* L. (Asteraceae) (see *Eurybia divaricata* (L.) Nesom)
- Aster drummondii* Lindl. (Asteraceae) (see *Symphytotrichum drummondii* (Lindl.) Nesom)
- Aster ericoides* L. (Asteraceae) (see *Symphytotrichum ericoides* (L.) Nesom)
- Aster hirsuticaulis* Lindl. ex DC. (Asteraceae) (see *Symphytotrichum lateriflorum* (L.) A. & D. Löve)
- Aster laevis* L. (Asteraceae) (see *Symphytotrichum laevis* (L.) A. & D. Löve)
- Aster lateriflorus* (L.) Britt. (Asteraceae) (see *Symphytotrichum lateriflorum* (L.) A. & D. Löve)
- Aster linariifolius* L. (Asteraceae) (see *Ionactis linariifolius* (L.) Greene)
- Aster lowrieanus* Porter (Asteraceae) (see *Symphytotrichum lowrieanus* (Porter) Nesom)
- Aster macrophyllus* L. (Asteraceae) (see *Eurybia macrophylla* (L.) Cass.)
- Aster multiflorus* Ait. (Asteraceae) (see *Symphytotrichum ericoides* (L.) Nesom)
- Aster novae-angliae* L. (Asteraceae) (see *Symphytotrichum novae-angliae* (L.) Nesom)
- Aster oblongifolius* Nutt. (Asteraceae) (see *Symphytotrichum oblongifolium* (Nutt.) Nesom)
- Aster paniculatus* Lam. (Asteraceae) (see *Symphytotrichum lanceolatum* (Willd.) Nesom)
- Aster patens* Ait. (Asteraceae) (see *Symphytotrichum patens* (Ait.) Nesom)
- Aster paternus* Cronq. (Asteraceae) (see *Sericocarpus asteroides* (L.) B.S.P.)
- Aster pilosus* Willd. (Asteraceae) (see *Symphytotrichum pilosum* (Willd.) Nesom)
- Aster puniceus* L. (Asteraceae) (see *Symphytotrichum puniceum* (L.) A. & D. Löve)
- Aster sagittifolius* Willd. (Asteraceae) *Acalymma vittatum* (Fabricius), *Diabroti-*

- ca longicornis* (Say), *D. undecimpunctata* Mannerheim, *Ophraella bilineata* (Kirby), *O. pilosa* LeSage, *Sumitrosis inaequalis* (Weber)
- Aster salicifolius* Ait. (Asteraceae) (see *Symphyotrichum praealtum* (Poir.) Nesom)
- Aster shortii* Lindl. (Asteraceae) (see *Symphyotrichum shortii* (Lindl.) Nesom)
- Aster simplex* Willd. (Asteraceae) (see *Symphyotrichum lanceolatum* (Willd.) Nesom)
- Aster spinosus* Benth. (Asteraceae) (see *Chloracantha spinosa* (Benth.) Nesom)
- Aster strigosus* Thunb. (Asteraceae) *Ophraella notata* (Fabricius)
- Aster tardiflorus* L. (Asteraceae) *Acalymma vittatum* (Fabricius)
- Aster tripolium* L. (Asteraceae) (see *Tripolium pannonicum* (Jacq.) Debocz.)
- Aster urophyllum* Lindl. ex DC. (Asteraceae) (see *Symphyotrichum urophyllum* (Lindl.) Nesom)
- Aster* sp. (Asteraceae) *Altica bimarginata* Say, *Calligrapha lunata* (Fabricius), *Cassida rubiginosa* Müller, *Colaspis costipennis* Crotch, *Cryptocephalus quadruplex* Newman, *Diabrotica virgifera* LeConte, *Diachus auratus* (Fabricius), *Disonycha fumata* (LeConte), *D. latifrons* Schaeffer, *Epitrix cucumeris* (Harris), *E. fasciata* Blatchley, *Exema canadensis* Pierce, *E. conspersa* (Mannerheim), *E. gibber* (Fabricius), *Glyptina texana* (Crotch), *Microrhopala rubrolineata* (Mannerheim), *M. vittata* (Fabricius), *Neochlamisus eubati* (Brown), *Systema blanda* Melsheimer, *S. frontalis* (Fabricius), *Trirhabda bacharidis* (Weber), *T. virgata* LeConte
- Asteriscus maritimus* (L.) Less. (Asteraceae) *Longitarsus succineus* (Foudras)
- Astragalus* sp. (Fabaceae) *Exema conspersa* (Mannerheim), *Physonota unipunctata* (Say), *Systema bitaeniata* (LeConte)
- Atriplex acanthocarpa* (Torr.) S. Wats. (Chenopodiaceae) *Chaetocnema densa* White
- Atriplex argentea* Nutt. (Chenopodiaceae) *Erynephala puncticollis* (Say)
- Atriplex barclayana* (Benth.) D. Dietr. (Chenopodiaceae) *Monoxia minuta* Blake
- Atriplex canescens* (Pursh) Nutt. (Chenopodiaceae) *Metachroma californicum* Crotch, *Monoxia elegans* Blake
- Atriplex confertifolia* (J. Torr.) S. Wats. (Chenopodiaceae) *Monoxia puberula* Blake
- Atriplex cristata* Humb. & Bonpl. ex Willd. (Chenopodiaceae) *Chaetocnema densa* White
- Atriplex halimus* L. (Chenopodiaceae) *Longitarsus succineus* (Foudras)
- Atriplex hastata* L. (Chenopodiaceae) (see *Atriplex patula* L.)
- Atriplex holocarpa* F. Muell. (Chenopodiaceae) *Disonycha xanthomelas* (Dalman)
- Atriplex lentiformis* (J. Torr.) S. Wats. (Chenopodiaceae) *Monoxia sordida* (LeConte)
- Atriplex nitens* Schkuhr (Chenopodiaceae) *Cassida nebulosa* Linnaeus
- Atriplex nuttallii* S. Wats. (Chenopodiaceae) *Pachybrachis melanostictus* Suffrian, *Phyllotreta albionica* (LeConte)
- Atriplex patula* L. (Chenopodiaceae) *Cassida nebulosa* Linnaeus, *Erynephala puncticollis* (Say)
- Atriplex polycarpa* (Torr.) S. Wats. (Chenopodiaceae) *Metachroma nigrosignatum* Blake
- Atriplex prostrata* Boucher ex DC. (Chenopodiaceae) *Monoxia angularis* (LeConte)
- Atriplex semibaccata* R. Br. (Chenopodiaceae) *Disonycha xanthomelas* (Dalman), *Monoxia minuta* Blake
- Atriplex subcordata* Kitag. (Chenopodiaceae) *Cassida nebulosa* Linnaeus
- Atriplex velutinella* F. Muell. (Chenopodiaceae) *Disonycha xanthomelas* (Dalman)
- Atriplex* sp. (Chenopodiaceae) *Cassida nobilis* Linnaeus, *Chaetocnema concinna* (Marshall), *Erynephala maritima* (LeConte), *Monoxia apicalis* Blake, *M. consputa* (LeConte), *M. debilis* LeConte, *M. obesula* Blake, *Pachybrachis jacobyi* Bowditch, *P. xanti* Crotch, *Zygogramma conjuncta* (Rogers)
- Atropa belladonna* L. (Solanaceae) *Diabrotica undecimpunctata* Mannerheim, *Epitrix cucumeris* (Harris), *E. fasciata* Blatchley, *Lema daturaphila* Kogan & Goeden, *L. nigrovittata* (Guérin-Ménéville), *L. trivittata* Say, *Leptinotarsa decemlineata* (Say), *Psylliodes affinis* (Paykull)
- Atropanthe sinensis* (Hemsl.) Pascher (Solanaceae) *Leptinotarsa decemlineata* (Say)
- Augustine ascending elm (see *Ulmus americana* L.)
- Aureolaria flava* (L.) Farw. (Scrophulariaceae) *Capraita circumdata* (Randall), *Kuschelina horni* (Harold)

Leaf Beetles Listed by Plants

- Aureolaria grandiflora* (Benth.) Pennell (Scrophulariaceae) *Capraita circumdata* (Randall)
- Austrian winter pea (see *Lathyrus hirsutus* L.)
- Avena fatua* L. (Poaceae) *Oulema melanopus* (Linnaeus), *Zygo-*
gramma piceicollis (Stål), *Z. signatipennis* (Stål)
- Avena sativa* L. (Poaceae) *Chaetocnema confinis* Crotch, *C. denticu-*
lata (Illiger), *C. pulicaria* Melsheimer, *Diabrotica balteata* LeConte, *D. barberi* Smith & Lawrence, *D.*
undecimpunctata Mannerheim, *Epitrix cucumeris* (Harris), *Leptinotarsa decemlineata* (Say), *Oulema*
collaris (Say), *O. melanopus* (Linnaeus), *Paria canella* (Fabricius), *Systema blanda* Melsheimer
- Avena* sp. (Poaceae) *Bassareus lituratus* (Fabricius), *Chae-*
tocnema ectypa Horn, *C. pinguis* LeConte, *Diabrotica longicornis* (Say), *Disonycha xanthomelas* (Dal-
- man), *Gastrophysa dissimilis* (Say), *Graphops curtipennis* (Melsheimer), *G. pubescens* (Melsheimer),
Lema daturaphila Kogan & Goeden, *Longitarsus turbatus* Horn, *Odontota dorsalis* (Thunberg),
Oulema palustris (Blatchley), *Paria fragariae* Wilcox, *P. quadrinotata* (Say), *Phyllotreta robusta*
LeConte, *P. striolata* (Fabricius), *Psylliodes elegans* Horn
- Avicennia germinans* (L.) L. (Avicenniaceae) *Metachroma clarkei* Blake, *Paria vir-*
giniae (Wilcox)
- Avicennia nitida* Jacq. (Avicenniaceae) (see *Avicennia germinans* (L.) L.)
- Avocado (see *Persea americana* Mill.)
- Ayenia micrantha* Standl. (Sterculiaceae) *Calligrapha serpentina* (Rogers)
- Azalea (see *Rhododendron*)
- Azalea* sp. (Ericaceae) (see *Rhododendron*)
- Azolla africana* Desv. (Azollaceae) *Pseudolampsis guttata* (LeConte)
- Azolla caroliniana* Willd. (Azollaceae) *Pseudolampsis guttata* (LeConte)
- Azolla filiculoides* Lamarck (Azollaceae) *Pseudolampsis guttata* (LeConte)
- Azolla nilotica* DeCasine ex Mett. (Azollaceae) *Pseudolampsis guttata* (LeConte)
- Azolla pinnata* R. Br. (Azollaceae) (see *Azolla africana* Desv.)
- Babylon weeping willow (see *Salix babylonica* L.)
- Baccharis angustifolia* Michx. (Asteraceae) *Triachus postremus* LeConte
- Baccharis bigelovii* A. Gray (Asteraceae) *Octotoma marginicollis* Horn, *Pachybra-*
chis marginatus Bowditch, *Pentispa suturalis* (Baly), *Systema laevis* Blake
- Baccharis conferta* Kunth (Asteraceae) *Zygogramma signatipennis* (Stål)
- Baccharis emoryi* A. Gray (Asteraceae) *Diabrotica balteata* LeConte
- Baccharis glutinosa* Pers. (Asteraceae) (see *Baccharis salicifolia* (Ruiz & Pav.) Pers.)
- Baccharis halimifolia* L. (Asteraceae) *Anomoea laticlavata* (Forster), *Bassareus*
brunnipes (Olivier), *Brachypnoea rotundicollis* (Schaeffer), *Chrysomela scripta* Fabricius, *Colas-*
pis planicostata Blake, *C. recurva* Blake, *Cryptocephalus pumilus* Haldeman, *Diabrotica balteata*
LeConte, *D. undecimpunctata* Mannerheim, *Diachus auratus* (Fabricius), *Disonycha conjugata* (Fabri-
- cius), *Exema deserti* Pierce, *E. elliptica* Karren, *E. gibber* (Fabricius), *E. neglecta* Blatchley, *Lysathia*
ludoviciana (Fall), *Microtheca ochroloma* Stål, *Ophraella notulata* (Fabricius), *O. sexvittata* (LeConte),
Paranapiacaba connexa (LeConte), *Paria aterrima* (Olivier), *P. thoracica* (Melsheimer), *Systema*
gracilenta Blake, *Triachus cerinus* LeConte, *T. postremus* LeConte, *Trirhabda bacharidis* (Weber), *T.*
flavolimbata (Mannerheim)
- Baccharis neglecta* Britt. (Asteraceae) *Altica carinata* Germar, *Brachypnoea ro-*
tundicollis (Schaeffer), *B. texana* (Schaeffer), *B. tristis* (Olivier), *Cryptocephalus cribripennis* LeConte,
C. pumilus Haldeman, *C. simulans* Schaeffer, *Diabrotica balteata* LeConte, *D. undecimpunctata*
Mannerheim, *Diachus auratus* (Fabricius), *Disonycha caroliniana* (Fabricius), *Exema elliptica* Karren,
Metaparia opacicollis (Horn), *Metrioidea blakeae* (Wilcox), *Pachybrachis diversus* Fall, *P. mercurialis*
Fall, *Systema blanda* Melsheimer, *S. gracilenta* Blake, *Trirhabda bacharidis* (Weber), *T. flavolimbata*
(Mannerheim)
- Baccharis pilularis* DC. (Asteraceae) *Acalymma trivittatum* (Melsheimer),
Cryptocephalus confluentus Say, *C. sanguinicollis* Suffrian, *Diabrotica undecimpunctata* Mannerheim,
Diachus auratus (Fabricius), *Pachybrachis hybridus* Suffrian, *Trirhabda bacharidis* (Weber), *T. flavo-*
limbata (Mannerheim), *T. labrata* Fall
- Baccharis pteronioides* DC. (Asteraceae) *Cryptocephalus amatus* Haldeman, *C.*
confluentus Say, *C. simulans* Schaeffer, *C. spurcus* LeConte, *Exema deserti* Pierce, *Pachybrachis*
dubiosus LeConte, *P. umbraculatus* Suffrian, *P. vau* Fall, *Paria quadriguttata* LeConte, *Systema blanda*
Melsheimer, *S. laevis* Blake
- Baccharis salicifolia* (Ruiz & Pav.) Pers. (Asteraceae) *Cryptocephalus simulans* Schaeffer, *C.*
spurcus LeConte, *Diabrotica undecimpunctata* Mannerheim, *D. virgifera* LeConte, *Diachus auratus*

- (Fabricius), *Exema deserti* Pierce, *E. dispar* Lacordaire, *E. elliptica* Karren, *Leptinotarsa lineolata* (Stål), *Metrioidea blakeae* (Wilcox), *Pachybrachis brunneus* Bowditch, *P. diversus* Fall, *P. signatus* Bowditch, *Paranapiacaba tricineta* (Say), *Pentispa suturalis* (Baly), *Systema blanda* Melsheimer
- Baccharis salicina* J. Torr. & A. Gray (Asteraceae) *Cryptocephalus amatus* Haldeman, *C. pumilus* Haldeman, *Exema deserti* Pierce, *E. elliptica* Karren, *Octotoma marginicollis* Horn, *Pachybrachis diversus* Fall, *P. signatus* Bowditch, *Paria quadriguttata* LeConte, *Systema blanda* Melsheimer, *Trirhabda bacharidis* (Weber)
- Baccharis sarothroides* A. Gray (Asteraceae) *Altica carinata* Germar, *Brachypnoea rotundicollis* (Schaeffer), *Cryptocephalus confluentus* Say, *Exema deserti* Pierce, *Systema blanda* Melsheimer, *S. laevis* Blake, *Trirhabda bacharidis* (Weber)
- Baccharis thesioides* Kunth (Asteraceae) *Brachycoryna pumila* Guérin-Ménéville
- Baccharis* sp. (Asteraceae) *Altica torquata* LeConte, *Chaetocnema ectypa* Horn, *Disonycha arizonae* Casey, *D. politula* Horn, *Myochrous longulus* LeConte, *Pachybrachis nubigenus* Fall, *Sumitrosis arnetti* Butte, *Trirhabda caduca* Horn, *T. nitidicollis* LeConte
- Bahia* sp. (Asteraceae) *Trirhabda geminata* Horn
- Baldcypress (see *Taxodium distichum* (L.) L. C. Rich.)
- Ball mustard (see *Neslia paniculata* (L.) Desv.)
- Ballota nigra* L. (Lamiaceae) *Cassida azurea* Fabricius, *Chrysolina staphylaea* (Linnaeus), *Longitarsus pratensis* (Panzer)
- Ballota* sp. (Lamiaceae) *Chrysolina fastuosa* (Scopoli)
- Balm of Gilead (see *Populus*)
- Balsam-apple (see *Momordica*)
- Balsam fir (see *Abies balsamea* (L.) P. Mill.)
- Balsamorhiza hirsuta* Nutt. (Asteraceae) *Pseudoluperus longulus* (LeConte)
- Balsamorhiza sagittata* (Pursh) Nutt. (Asteraceae) *Glyptoscels artemisiae* Blake, *Pseudoluperus longulus* (LeConte), *Scelolyperus nigrocyanus* (LeConte)
- Balsamorhiza* sp. (Asteraceae) *Microrhopala vittata* (Fabricius)
- Balsam poplar (see *Populus balsamifera* L.)
- Balsamroot (see *Balsamorhiza*)
- Baltimora* sp. (Asteraceae) *Disonycha fumata* (LeConte), *D. glabrata* (Fabricius), *Strabala acuminata* Blake
- Bamboo (see *Arundinaria*, *Bambusa*, etc.)
- Bambusa* sp. (Poaceae) *Chaetocnema ectypa* Horn, *Monoxia debilis* LeConte
- Banana (see *Musa*)
- Baptisia australis* (L.) R. Br. (Fabaceae) *Pachybrachis luridus* (Fabricius)
- Baptisia leucantha* J. Torr. & A. Gray (Fabaceae) *Pachybrachis luridus* (Fabricius)
- Baptisia tinctoria* (L.) R. Br. (Fabaceae) *Pachybrachis luridus* (Fabricius), *P. trino-tatus* (Melsheimer)
- Barbarea barbarea* MacM. (Brassicaceae) (see *Barbarea vulgaris* R. Br.)
- Barbarea minor* C. Koch (Brassicaceae) *Psylliodes chrysocephalus* (Linnaeus)
- Barbarea orthoceras* Ledeb. (Brassicaceae) *Phyllotreta striolata* (Fabricius)
- Barbarea verna* (Mill.) Asch. (Brassicaceae) *Phyllotreta conjuncta* Gentner, *P. striolata* (Fabricius), *P. zimmermanni* (Crotch)
- Barbarea vulgaris* R. Br. (Brassicaceae) *Altica corni* Woods, *Diabrotica longicornis* (Say), *Longitarsus melanurus* (Melsheimer), *L. pratensis* (Panzer), *Neochlamisus eubati* (Brown), *Phaedon viridis* Melsheimer, *Phyllotreta bipustulata* (Fabricius), *P. conjuncta* Gentner, *P. cruciferae* (Goeze), *P. striolata* (Fabricius), *P. undulata* (Kutschera), *P. zimmermanni* (Crotch), *Plateumaris nitida* (Germar), *Psylliodes convexior* LeConte, *P. napi* (Fabricius), *P. punctulatus* Melsheimer
- Barbarea* sp. (Brassicaceae) *Microtheca ochroloma* Stål
- Barkleyanthus salicifolius* (Kunth) H. E. Robins. & Brett (Asteraceae) *Oulema arizonae* (Schaeffer)
- Barleria cristata* L. (Acanthaceae) *Neochlamisus insularis* (Schaeffer)
- Barley (see *Hordeum*)
- Barnyard grass (see *Echinochloa crus-galli* (L.) Beauv.)
- Bartlett pear (see *Pyrus communis* L.)
- Basil (see *Clinopodium*, *Ocimum*, *Salvia*, *Satureja*, etc.)
- Basket willow (see *Salix purpurea* L., *S. viminalis* L.)
- Bassia* sp. (Chenopodiaceae) *Pachybrachis coloradensis* Bowditch

Leaf Beetles Listed by Plants

- Basswood (see *Tilia*)
- Batis maritima* L. (Bataceae) *Chaetocnema blatchleyi* Csiki, *C. brunescens* Horn, *Erynephala maritima* (LeConte), *Monoxia batisia* Blatchley
- Bayberry (see *Myrica*)
- Beach pea (see *Lathyrus japonicus* Willd.)
- Beach plum (see *Prunus maritima* H. Marsh.)
- Beach vine (see *Canavalia*, *Jacquemontia*, etc.)
- Bean (see *Phaseolus vulgaris* L.)
- Bear-grass (see *Xerophyllum tenax* (Pursh) Nutt.)
- Beaumontia grandiflora* Wall. (Apocynaceae) *Diabrotica balteata* (LeConte)
- Beauty seedless grape (see *Vitis vinifera* L.)
- Bebbia juncea* (Benth.) E. L. Greene (Asteraceae) *Altica carinata* Germar, *Disonycha fumata* (LeConte), *Exema deserti* Pierce, *Pachybrachis diversus* Fall, *P. integratus* Fall, *P. precarius* Fall
- Bedstraw (see *Galium*)
- Beech (see *Fagus grandifolia* Ehrh.)
- Beeplant (see *Cleome*)
- Beet (see *Beta vulgaris* L.)
- Befaria racemosa* Ventenat (Ericaceae) *Cryptocephalus aulicus* Haldeman
- Beggar-tick (see *Bidens*)
- Beggarweed (see *Desmodium*)
- Begonia* sp. (Begoniaceae) *Diabrotica balteata* LeConte, *Liliocercis lilii* (Scopoli)
- Belladonna (see *Atropa belladonna* L.)
- Bellis perennis* L. (Asteraceae) *Cryptocephalus venustus* Fabricius, *Diabrotica undecimpunctata* Mannerheim
- Bell pepper (see *Capsicum annuum* L.)
- Beloperone* sp. (Acanthaceae) *Ophraea rugosa* Jacoby
- Bent grass (see *Agrostis*)
- Benthamantha mollis* (Kunth) Alef. (Fabaceae) *Xenochalepus omogerus* (Crotch)
- Berberis* sp. (Berberidaceae) *Scelolyperus schwarzii* Horn, *Syneta hamata* Horn
- Bermuda grass (see *Cynodon dactylon* (L.) Pers.)
- Bernardia mexicana* (Hook. & Arn.) Mull. Arg. (Euphorbiaceae) *Syphrea nitidiventris* (Fall)
- Berteroa incana* (L.) DC. (Brassicaceae) *Entomoscelis americana* Brown, *Phyllotreta striolata* (Fabricius), *P. undulata* (Kutschera)
- Berteroa* sp. (Brassicaceae) *Galeruca browni* Blake
- Beta saccharifera* Alef. (Chenopodiaceae) (see *Beta vulgaris* L.)
- Beta vulgaris* L. (Chenopodiaceae) *Acalymma trivittatum* (Mannerheim), *A. vittatum* (Fabricius), *Altica ambiens* LeConte, *A. foliaceae* LeConte, *A. ignita* Illiger, *A. suspecta* Fall, *A. vicaria* Horn, *Cassida azurea* Fabricius, *C. nebulosa* Linnaeus, *C. nobilis* Linnaeus, *C. rubiginosa* Müller, *Chaetocnema concinna* (Marsham), *C. confinis* Crotch, *C. denticulata* (Illiger), *C. ectypa* Horn, *C. minuta* Melsheimer, *C. pulicaria* Melsheimer, *Chrysochus cobaltinus* LeConte, *Colaspis brunnea* (Fabricius), *Crepidodera nana* (Say), *Diabrotica balteata* LeConte, *D. longicornis* (Say), *D. tibialis* Jacoby, *D. undecimpunctata* Mannerheim, *Dibolia borealis* Chevrolat, *Disonycha caroliniana* Fabricius, *D. collata* (Fabricius), *D. discoidea* (Fabricius), *D. fumata* (LeConte), *D. glabrata* (Fabricius), *D. maritima* Mannerheim, *D. triangularis* (Say), *D. xanthomelas* (Dalman), *Entomoscelis americana* Brown, *Epitrix brevis* Schwarz, *E. cucumeris* (Harris), *E. fasciata* Blatchley, *E. fuscata* Crotch, *E. hirtipennis* (Melsheimer), *E. similis* Gentner, *E. subcristata* (LeConte), *E. tuberosa* Gentner, *Erynephala maritima* (LeConte), *E. puncticollis* (Say), *Gastrophysa polygona* (Linnaeus), *Glyptina brunnea* Horn, *Graphops varians* LeConte, *Hemiglyptus basalis* (Crotch), *Leptinotarsa decemlineata* (Say), *Longitarsus melanurus* (Melsheimer), *L. testaceus* (Melsheimer), *Margaridisa atriventris* (Melsheimer), *Monoxia angularis* (LeConte), *M. consputa* (LeConte), *M. debilis* LeConte, *M. elegans* Blake, *M. guttulata* (LeConte), *M. pallida* Blake, *M. schizonychia* Blake, *Myochrous longulus* LeConte, *Omophoita cyanipennis* (Fabricius), *Oulema melanopus* (Linnaeus), *Phaedon cyanescens* Stål, *Phyllotreta albionica* (LeConte), *P. attenuata* Smith, *P. cruciferae* (Goeze), *P. decipiens* Horn, *P. lewisii* (Crotch), *P. oregonensis* (Crotch), *P. pusilla* Horn, *P. striolata* (Fabricius), *P. utana* Chittenden, *Psylliodes chalconeris* (Illiger), *P. chryscephalus* (Linnaeus), *P. convexior* LeConte, *P. punctulatus* Melsheimer, *Systema bitaeniata* (LeConte), *S. blanda* Melsheimer, *S. dimorpha* Blake, *S. elongata* (Fabricius), *S. frontalis* (Fabricius), *S. hudsonias* (Forster), *S. laevis* Blake, *S. mitis* (LeConte), *Zygogramma piceicollis* (Stål), *Z. signatipennis* (Stål)

<i>Beta</i> sp. (Chenopodiaceae)	<i>Lema daturaphila</i> Kogan & Goeden,
<i>Longitarsus pratensis</i> (Panzer)	
<i>Betula alba</i> L. (Betulaceae)	(see <i>Betula pubescens</i> Ehrh.)
<i>Betula alleghaniensis</i> Britt. (Betulaceae)	<i>Baliosus nervosus</i> (Panzer), <i>Chrysomela crotchii</i> Brown, <i>Orsodacne atra</i> (Ahrens)
<i>Betula fontinalis</i> Sarg. (Betulaceae)	(see <i>Betula occidentalis</i> Hook.)
<i>Betula glandulosa</i> Michx. (Betulaceae)	<i>Altica bimarginata</i> Say, <i>A. subcostata</i> LeSage
<i>Betula lenta</i> L. (Betulaceae)	<i>Anomoea laticlavata</i> (Forster), <i>Calligrapha ignota</i> Brown
<i>Betula lutea</i> Michx. f. (Betulaceae)	(see <i>Betula alleghaniensis</i> Britt.)
<i>Betula nigra</i> L. (Betulaceae)	<i>Altica subcostata</i> LeSage, <i>Monocesta coryli</i> (Say), <i>Neochlamisus bebbianae</i> (Brown), <i>N. platani</i> (Brown), <i>Odontota scapularis</i> (Olivier)
<i>Betula occidentalis</i> Hook. (Betulaceae)	<i>Altica bimarginata</i> Say, <i>A. subcostata</i> LeSage
<i>Betula papyrifera</i> Marsh. (Betulaceae)	<i>Altica cuprascens</i> Blatchley, <i>Anomoea laticlavata</i> (Forster), <i>Baliosus nervosus</i> (Panzer), <i>Calligrapha ignota</i> Brown, <i>C. scalaris</i> (LeConte), <i>Neochlamisus gibbosus</i> (Fabricius), <i>Pachybrachis peccans</i> Suffrian, <i>Phratora hudsonia</i> Brown, <i>Sce-lolyperus meracus</i> (Say), <i>Syneta ferruginea</i> (Germar)
<i>Betula populifolia</i> Marsh. (Betulaceae)	<i>Cryptocephalus notatus</i> Fabricius, <i>Sce-lolyperus meracus</i> (Say)
<i>Betula pubescens</i> Ehrh. (Betulaceae)	<i>Agelastica alni</i> (Linnaeus), <i>Gonioctena americana</i> (Schaeffer), <i>Neochlamisus gibbosus</i> (Fabricius), <i>Tricholochmaea decora</i> (Say), <i>Xanthogale-ruca luteola</i> (Müller)
<i>Betula pumila</i> L. (Betulaceae)	<i>Cryptocephalus venustus</i> Fabricius
<i>Betula</i> sp. (Betulaceae)	<i>Altica betulae</i> Schaeffer, <i>Brachypnoea puncticollis</i> (Say), <i>Bromius obscurus</i> (Linnaeus), <i>Calligrapha alni</i> Schaeffer, <i>Chrysolina staphylaea</i> (Linnaeus), <i>Crepidodera nana</i> (Say), <i>Cryptocephalus basalis</i> Suffrian, <i>C. mutabilis</i> Melsheimer, <i>Di-abrotica virgifera</i> LeConte, <i>Exema canadensis</i> Pierce, <i>E. dispar</i> Lacordaire, <i>Odontota dorsalis</i> (Thun-berg), <i>Phratora californica</i> Brown, <i>P. frosti</i> Brown, <i>Psylliodes picinus</i> (Marsham), <i>Syneta hamata</i> Horn, <i>Systema marginalis</i> (Illiger), <i>Xanthonia decemnotata</i> (Say)
<i>Bidens bipinnata</i> L. (Asteraceae)	<i>Pachybrachis vestigialis</i> Fall
<i>Bidens cernua</i> L. (Asteraceae)	<i>Calligrapha bidenticola</i> Brown, <i>C. cali-fornica</i> Linell, <i>Chrysolina staphylaea</i> (Linnaeus)
<i>Bidens chrysanthemoides</i> Michx. (Asteraceae)	(see <i>Bidens laevis</i> (L.) B.S.P.)
<i>Bidens frondosa</i> L. (Asteraceae)	<i>Calligrapha bidenticola</i> Brown, <i>C. cali-fornica</i> Linell, <i>Ophraella communis</i> LeSage, <i>Systema frontalis</i> (Fabricius)
<i>Bidens laevis</i> (L.) B.S.P. (Asteraceae)	<i>Calligrapha californica</i> Linell, <i>Diabrotica undecimpunctata</i> Mannerheim
<i>Bidens pilosa</i> L. (Asteraceae)	<i>Cryptocephalus nigrocinctus</i> Suffrian, <i>Diachus auratus</i> (Fabricius), <i>Exema dispar</i> Lacordaire, <i>Ophraella communis</i> LeSage, <i>Phaedon cyane-scens</i> Stål, <i>Zygogramma piceicollis</i> (Stål), <i>Z. signatipennis</i> (Stål)
<i>Bidens vulgata</i> Greene (Asteraceae)	<i>Systema hudsonias</i> (Forster)
<i>Bidens</i> sp. (Asteraceae)	<i>Cerotoma trifurcata</i> (Forster), <i>Deloyala guttata</i> (Olivier), <i>Diabrotica virgifera</i> LeConte
Big bluestem	(see <i>Andropogon gerardii</i> Vitman)
<i>Bigelovia</i> sp. (Asteraceae)	(see <i>Bigelovia</i>)
<i>Bigelovia virgata</i> (Nutt.) DC. (Asteraceae)	<i>Exema neglecta</i> Blatchley
<i>Bigelovia</i> sp. (Asteraceae)	<i>Chalepus walshii</i> (Crotch), <i>Trirhabda convergens</i> LeConte, <i>T. lewisii</i> Crotch
Big sagebrush	(see <i>Artemisia tridentata</i> Nutt.)
<i>Billia columbiana</i> Planch. & Linden (Hippocastanaceae)	<i>Charidotella sexpunctata</i> (Fabricius)
Bindweed	(see <i>Calystegia</i> , <i>Convolvulus</i> , <i>Ipomoea</i>)
Birch	(see <i>Betula</i>)
Bird cherry	(see <i>Prunus pensylvanica</i> L. f.)
Bitter nightshade	(see <i>Solanum dulcamara</i> L.)
Bittersweet	(see <i>Celastrus scandens</i> L., <i>Solanum dulcamara</i> L.)
Blackberry	(see <i>Rubus</i>)

Leaf Beetles Listed by Plants

Black-cap raspberry	(see <i>Rubus occidentalis</i> L.)
Black currant	(see <i>Ribes nigrum</i> L.)
Black-eyed pea	(see <i>Vigna unguiculata</i> Clav.)
Black-eyed Susan	(see <i>Rudbeckia hirta</i> L.)
Black henbane	(see <i>Hyoscyamus niger</i> L.)
Black huckleberry	(see <i>Gaylussacia baccata</i> (Wang.) K. Koch)
Black locust	(see <i>Robinia pseudoacacia</i> L.)
Black mustard	(see <i>Brassica nigra</i> (L.) W. D. J. Koch)
Black nightshade	(see <i>Solanum americanum</i> P. Mill.)
Black oak	(see <i>Quercus velutina</i> Lam.)
Black poplar	(see <i>Populus nigra</i> L.)
Black raspberry	(see <i>Rubus occidentalis</i> L.)
Black sage	(see <i>Cordia macrostachya</i> (Jacq.) Roem. & Schult.)
Black walnut	(see <i>Juglans nigra</i> L.)
Black willow	(see <i>Salix nigra</i> Marsh.)
Bleeding heart	(see <i>Dicentra</i>)
Bloodweed	(see <i>Plagiobothrys arizonicus</i> (A. Gray) E. L. Greene ex A. Gray)
<i>Bloomeria</i> sp. (Liliaceae)	<i>Coleorozena lecontii</i> (Crotch), <i>Spintherophyta exigua</i> Schultz
Blueberry	(see <i>Vaccinium</i>)
Blue camas	(see <i>Camassia</i>)
Bluegrass	(see <i>Poa</i>)
Blue spruce	(see <i>Picea pungens</i> Engelm.)
Bluets	(see <i>Houstonia</i>)
<i>Boerhavia erecta</i> L. (Nyctaginaceae)	<i>Colaspis brunnea</i> (Fabricius)
<i>Boerhavia</i> sp. (Nyctaginaceae)	<i>Disonycha fumata</i> (LeConte)
<i>Boehmeria</i> sp. (Urticaceae)	<i>Spintherophyta exigua</i> Schultz
<i>Boltonia asteroides</i> (L.) L'Her. (Asteraceae)	<i>Diabrotica longicornis</i> (Say), <i>D. undecimpunctata</i> Mannerheim, <i>Microrhopala xerene</i> (Newman)
<i>Boltonia diffusa</i> Ell. (Asteraceae)	<i>Disonycha fumata</i> (LeConte)
Boneset	(see <i>Eupatorium perfoliatum</i> L.)
<i>Borago officinalis</i> L. (Boraginaceae)	<i>Longitarsus quadriguttatus</i> (Pontoppidan)
<i>Borreria terminalis</i> Small (Rubiaceae)	<i>Neolochmaea obliterated</i> (Olivier)
<i>Borreria verticillata</i> (L.) G. Meyer (Rubiaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Neolochmaea obliterated</i> (Olivier)
<i>Borreria</i> sp. (Rubiaceae)	<i>Spintherophyta exigua</i> Schultz
<i>Borrichia frutescens</i> (L.) DC. (Asteraceae)	<i>Metachroma texanum</i> Schaeffer, <i>Systema pallicornis</i> Schaeffer
<i>Bothriochloa barbinodis</i> (Lag.) Herter (Poaceae)	<i>Anisostena cyanea</i> Staines
<i>Bothriochloa laguroides</i> (DC.) Herter (Poaceae)	<i>Anisostena cyanea</i> Staines
<i>Bothriochloa saccharoides</i> (Sw.) Rydb. (Poaceae)	<i>Anisostena cyanea</i> Staines
<i>Bothriochloa</i> sp. (Poaceae)	<i>Anisostena perspicua</i> (Horn)
<i>Bougainvillea</i> sp. (Nyctaginaceae)	<i>Anomoea rufifrons</i> (Lacordaire), <i>Chari-dotella sexpunctata</i> (Fabricius)
Bouncing bet	(see <i>Saponaria officinalis</i> L.)
<i>Bourreria huanita</i> (Lex.) Hemsl. (Boraginaceae)	<i>Physonota alutacea</i> Boheman
<i>Bourreria</i> sp. (Boraginaceae)	<i>Spintherophyta exigua</i> Schultz
<i>Bouteloua eriopoda</i> (J. Torr.) J. Torr. (Poaceae)	<i>Altica foliaceae</i> LeConte, <i>Coleorozena vittata</i> (LeConte), <i>Diabrotica undecimpunctata</i> Mannerheim, <i>Phyllotreta pusilla</i> Horn
<i>Bouteloua gracilis</i> (Willd. ex Kunth) Lag. ex Steud. (Poaceae)	<i>Diabrotica cristata</i> (Harris)
<i>Bouteloua</i> sp. (Poaceae)	<i>Lygistus streptophallus</i> Wilcox
Boysenberry	(see <i>Rubus ursinus</i> Cham. & Schlecht.)
Box elder	(see <i>Acer negundo</i> L.)
Boxelder	(see <i>Acer negundo</i> L.)
<i>Brachiaria mutica</i> (Forssk.) Stapf (Poaceae)	<i>Disonycha glabrata</i> (Fabricius), <i>Omo-phoita cyanipennis</i> (Fabricius), <i>Strabala rotunda</i> Blake

- Brachiaria plantaginea* (Link) A. Hitchc. (Poaceae) *Diabrotica virgifera* LeConte
- Brachypodium pinnatum* (L.) Beauv. (Poaceae) *Oulema melanopus* (Linnaeus)
- Brake fern (see *Pteridium aquilinum* (L.) Kuhn)
- Bramble (see *Rubus*)
- Brasenia peltata* Pursh (Hydropheltidae) (see *Brasenia schreberi* J. F. Gmel.)
- Brasenia schreberi* J. F. Gmel. (Hydropheltidae) *Donacia cincticornis* Newman, *D. hypoleuca* Lacordaire, *Galerucella nymphaeae* (Linnaeus)
- Brasenia* sp. (Hydropheltidae) *Donacia rufescens* Lacordaire
- Brassica amplexicaulis* Batt. (Brassicaceae) *Phyllotreta cruciferae* (Goeze)
- Brassica balearica* Pers. (Brassicaceae) *Phyllotreta cruciferae* (Goeze)
- Brassica barrelieri* (L.) Janka (Brassicaceae) *Phyllotreta cruciferae* (Goeze)
- Brassica campestris* L. (Brassicaceae) (see *Brassica rapa* L.)
- Brassica carinata* A. Braun (Brassicaceae) *Phyllotreta cruciferae* (Goeze)
- Brassica caulorapa* (DC.) Pasq. (Brassicaceae) (see *Brassica oleracea* L.)
- Brassica chinensis* L. (Brassicaceae) (see *Brassica rapa* L.)
- Brassica drepanensis* (Carvel) Damanti (Brassicaceae) *Phyllotreta cruciferae* (Goeze)
- Brassica elongata* Ehrh. (Brassicaceae) *Phyllotreta cruciferae* (Goeze)
- Brassica gravinae* Tenore (Brassicaceae) *Phyllotreta cruciferae* (Goeze)
- Brassica hirta* Moench (Brassicaceae) (see *Sinapis alba* L.)
- Brassica incana* Ten. (Brassicaceae) *Phyllotreta cruciferae* (Goeze)
- Brassica japonica* Siebold (Brassicaceae) *Omophoita cyanipennis* (Fabricius), *Phyllotreta striolata* (Fabricius)
- Brassica juncea* (L.) Czern. (Brassicaceae) *Entomoscelis americana* Brown, *Microtheca ochroloma* Stål, *Phyllotreta constricta* Smith, *P. cruciferae* (Goeze), *P. pusilla* Horn, *P. striolata* (Fabricius), *Psylliodes punctulatus* Melsheimer
- Brassica kaber* (DC.) L. C. Wheeler (Brassicaceae) (see *Sinapis arvensis* L.)
- Brassica macrocarpa* Guss. (Brassicaceae) *Phyllotreta cruciferae* (Goeze)
- Brassica maurorum* Dur. (Brassicaceae) *Phyllotreta cruciferae* (Goeze)
- Brassica napobrassica* (L.) Mill. (Brassicaceae) (see *Brassica napus* L.)
- Brassica napus* L. (Brassicaceae) *Altica litigata* Fall, *Chaetocnema concinna* (Marsham), *C. confinis* Crotch, *C. pulicaria* Melsheimer, *Chrysolina inornata* (Rogers), *Diabrotica undecimpunctata* Mannerheim, *Disonycha triangularis* (Say), *Entomoscelis americana* Brown, *Phyllotreta aeneicollis* (Crotch), *P. albionica* (LeConte), *P. bipustulata* (Fabricius), *P. cruciferae* (Goeze), *P. liebecki* Schaeffer, *P. punctulata* (Marsham), *P. pusilla* Horn, *P. ramosa* (Crotch), *P. robusta* LeConte, *P. striolata* (Fabricius), *P. undulata* (Kutschera), *P. zimmermanni* (Crotch), *Psylliodes chrysocephalus* (Linnaeus), *P. elegans* Horn, *P. punctulatus* Melsheimer, *Systema blanda* Melsheimer, *S. elongata* (Fabricius)
- Brassica nigra* (L.) W. D. J. Koch (Brassicaceae) *Chelymophra cassidea* (Fabricius), *Diabrotica undecimpunctata* Mannerheim, *Entomoscelis americana* Brown, *Phyllotreta bipustulata* (Fabricius), *P. cruciferae* (Goeze), *P. ramosa* (Crotch), *P. striolata* (Fabricius), *P. undulata* (Kutschera), *P. zimmermanni* (Crotch), *Psylliodes chrysocephalus* (Linnaeus), *P. napi* (Fabricius), *P. punctulatus* Melsheimer
- Brassica oleracea* L. (Brassicaceae) *Acalymma vittatum* (Fabricius), *Altica ignita* Illiger, *A. tombacina* Mannerheim, *Cassida azurea* Fabricius, *Chaetocnema denticulata* (Illiger), *C. minuta* Melsheimer, *C. pulicaria* Melsheimer, *Chelymophra cassidea* (Fabricius), *Colaspis brunnea* (Fabricius), *C. floridana* Schaeffer, *Cryptocephalus obsoletus* Germar, *Diabrotica balteata* LeConte, *D. undecimpunctata* Mannerheim, *D. virgifera* LeConte, *Disonycha collata* (Fabricius), *D. triangularis* (Say), *D. uniguttata* (Say), *D. xanthomelas* (Dalman), *Entomoscelis americana* Brown, *Epitrix cucumeris* (Harris), *E. fasciata* Blatchley, *E. hirtipennis* (Melsheimer), *E. tuberis* Gentner, *Exema dispar* Lacordaire, *Galeruca browni* Blake, *G. externa* Say, *Hemiglyptus basalis* (Crotch), *Kuschelina floridana* (Blake), *Lema solani* Fabricius, *Leptinotarsa decemlineata* (Say), *Longitarsus melanurus* (Melsheimer), *Microtheca ochroloma* Stål, *Omophoita cyanipennis* (Fabricius), *Oulema melanopus* (Linnaeus), *Phaedon armoraciae* (Linnaeus), *Phyllotreta aeneicollis* (Crotch), *P. albionica* (LeConte), *P. armoraciae* (Koch), *P. bipustulata* (Fabricius), *P. conjuncta* Gentner, *P. constricta* Smith, *P. cruciferae* (Goeze), *P. lewisii* (Crotch), *P. oregonensis* (Crotch), *P. punctulata* (Marsham), *P. pusilla* Horn, *P. ramosa* (Crotch), *P. robusta* LeConte, *P. striolata* (Fabricius), *P. undulata* (Kutschera), *P. zimmermanni* (Crotch), *Psylliodes chrysocephalus* (Linnaeus), *P. napi* (Fabricius), *P. punctulatus* Melsheimer, *Systema blanda* Melsheimer, *S. elongata* (Fabricius), *S. frontalis* (Fabricius), *S. hudsonias* (Forster), *Zygogramma piceicollis* (Stål)

Leaf Beetles Listed by Plants

- Brassica pekinensis* (Lour.) Rupr. (Brassicaceae) (see *Brassica rapa* L.)
- Brassica pe-tsai* L. H. Bailey (Brassicaceae) (see *Brassica rapa* L.)
- Brassica rapa* L. (Brassicaceae) *Acalymma vittatum* (Fabricius), *Altica ignita* Illiger, *A. litigata* Fall, *A. tombacina* Mannerheim, *Chaetocnema concinna* (Marsham), *C. confinis* Crotch, *C. denticulata* (Illiger), *C. ectypa* Horn, *C. pulicaria* Melsheimer, *Chrysolina inornata* (Rogers), *Colaspis louisianae* Blake, *Diabrotica balteata* LeConte, *D. longicornis* (Say), *D. undecimpunctata* Mannerheim, *D. virgifera* LeConte, *Dibolia borealis* Chevrolat, *Disonycha collata* (Fabricius), *D. discoidea* (Fabricius), *D. leptolineata* Blatchley, *D. politula* Horn, *D. triangularis* (Say), *Entomoscelis americana* Brown, *Epitrix cucumeris* (Harris), *E. fasciata* Blatchley, *Galeruca browni* Blake, *G. externa* Say, *G. rudis* LeConte, *Hemiglyptus basalis* (Crotch), *Microthecha ochroloma* Stål, *Myochrous denticollis* (Say), *Phaedon cyanescens* Stål, *P. viridis* Melsheimer, *Phyllotreta aeneicollis* (Crotch), *P. albionica* (LeConte), *P. armoraciae* (Koch), *P. bipustulata* (Fabricius), *P. conjuncta* Gentner, *P. constricta* Smith, *P. cruciferae* (Goeze), *P. decipiens* Horn, *P. herbacea* Chittenden, *P. lewisii* (Crotch), *P. liebecki* Schaeffer, *P. oregonensis* (Crotch), *P. punctulata* (Marsham), *P. pusilla* Horn, *P. ramosa* (Crotch), *P. ramosoides* Smith, *P. robusta* LeConte, *P. striolata* (Fabricius), *P. undulata* (Kutschera), *P. zimmermanni* (Crotch), *Psylliodes chrysocephalus* (Linnaeus), *P. convexior* LeConte, *P. napi* (Fabricius), *P. punctulatus* Melsheimer, *Systema bitaeniata* (LeConte), *S. blanda* Melsheimer, *S. elongata* (Fabricius), *S. frontalis* (Fabricius), *Zygogramma conjuncta* (Rogers), *Z. piceicollis* (Stål), *Z. signatipennis* (Stål)
- Brassica spinescens* Pomel (Brassicaceae) *Phyllotreta cruciferae* (Goeze)
- Brassica tournefortii* Gouan (Brassicaceae) *Phyllotreta cruciferae* (Goeze), *Psylliodes chrysocephalus* (Linnaeus)
- Brassica* sp. (Brassicaceae) *Charidotella emarginata* (Boheman), *C. sexpunctata* (Fabricius), *Deloyala guttata* (Olivier), *Disonycha fumata* (LeConte), *Lema daturaphila* Kogan & Goeden, *Lysathia ludoviciana* (Fall), *Margaridisa atriventris* (Melsheimer), *Phyllotreta denticornis* Horn, *Plateumaris nitida* (Germar), *Scelolyperus smaragdinus* (LeConte), *Tricholochmaea kalmiae* (Fall)
- Brickellia californica* (J. Torr. & A. Gray) A. Gray (Asteraceae) . . *Exema conspersa* (Mannerheim), *Trirhabda schwarzi* Blake
- Brickellia floribunda* A. Gray (Asteraceae) *Octotoma marginicollis* Horn
- Brickellia laciniata* Gray (Asteraceae) *Paria arizonensis* Wilcox, *Trirhabda geminata* Horn, *T. schwarzi* Blake
- Brickellia vernicosa* B. L. Rob. (Asteraceae) *Microrhopala rubrolineata* (Mannerheim)
- Broadbean (see *Vicia faba* L.)
- Broadleaf plantain (see *Plantago major* L.)
- Broccoli (see *Brassica oleracea* L.)
- Brome grass (see *Bromus*)
- Bromus anomalus* Rupr. ex Fourn. (Poaceae) *Chalepus walschii* (Crotch)
- Bromus arvensis* L. (Poaceae) *Oulema melanopus* (Linnaeus)
- Bromus catharticus* Vahl. (Poaceae) *Diabrotica undecimpunctata* Mannerheim, *Longitarsus melanurus* (Melsheimer)
- Bromus hordeaceus* L. (Poaceae) *Oulema melanopus* (Linnaeus)
- Bromus inermis* Leyss. (Poaceae) *Diabrotica cristata* (Harris), *Oulema melanopus* (Linnaeus)
- Bromus popovii* Drov. (Poaceae) (see *Bromus hordeaceus* L.)
- Bromus rubens* L. (Poaceae) *Oulema melanopus* (Linnaeus)
- Bromus secalinus* L. (Poaceae) *Psylliodes punctulatus* Melsheimer
- Bromus tectorum* L. (Poaceae) *Oulema melanopus* (Linnaeus)
- Bromus tomentellus* Boiss. (Poaceae) *Oulema melanopus* (Linnaeus)
- Bromus unioloides* Kunth in H. B. K. (Poaceae) (see *Bromus catharticus* Vahl.)
- Bromus* sp. (Poaceae) *Leptinotarsa decemlineata* (Say), *Phyllotreta liebecki* Schaeffer, *P. striolata* (Fabricius), *Psylliodes chrysocephalus* (Linnaeus)
- Broom (see *Cytisus* and similar genera)
- Broomcorn (see *Sorghum bicolor* (L.) Moench)
- Broomrape (see *Orobanche*)
- Broomsedge (see *Andropogon virginicus* L.)
- Brown-eyed Susan (see *Gaillardia*, *Rudbeckia*)
- Brown mustard (see *Brassica juncea* (L.) Czern.)
- Brugmansia arborea* auct. non (L.) Steud. (Solanaceae) (see *Brugmansia candida* Pers.)

- Brugmansia candida* Pers. (Solanaceae) *Lema confusa* Chevrolat, *L. daturaphila*
Kogan & Goeden, *L. nigrovittata* (Guérin-Méneville), *Leptinotarsa decemlineata* (Say), *Omophoita*
cyanipennis (Fabricius)
- Brugmansia sanguinea* (Ruiz & Pav.) D. Don (Solanaceae) *Leptinotarsa decemlineata* (Say)
- Brugmansia suaveolens* (Humb. & Bonpl. ex Willd.) Berecht. & K. Presl (Solanaceae) . . *Lema confusa* Chev-
rolat, *Omophoita cyanipennis* (Fabricius)
- Brunnera macrophylla* (Bieb.) I. M. Johnston (Boraginaceae) *Longitarsus quadriguttatus* (Pontoppidan)
- Brunnera* sp. (Boraginaceae) *Phaedon armoraciae* (Linnaeus)
- Brussels-sprouts (see *Brassica oleracea* L.)
- Buckeye (see *Aesculus*)
- Buckwheat (see *Eriogonum*, *Fagopyrum*, *Polygonum*)
- Buddleja cordata* Kunth in H. B. K. (Buddlejaceae) *Asphaera abdominalis* (Chevrolat),
Phaedon cyanescens Stål, *Zygogramma piceicollis* (Stål)
- Buddleja davidii* Franch. (Buddlejaceae) *Asphaera abdominalis* (Chevrolat)
- Buddleja humboltiana* J. A. Schultes & J. H. Schultes (Buddlejaceae) . . (see *Buddleja cordata* Kunth in H. B.
K.)
- Buffalo-bur (see *Solanum rostratum* Dunal)
- Buglossoides arvensis* (L.) I. M. Johnston (Boraginaceae) *Longitarsus quadriguttatus* (Pontoppidan)
- Buglossoides purpureocaerulea* (L.) I. M. Johnston (Boraginaceae) . *Longitarsus quadriguttatus* (Pontoppidan)
- Bull nettle (see *Laportea*, *Solanum*, *Urtica*, etc.)
- Bull thistle (see *Cirsium pumilum* (Nutt.) Spreng., *C.*
vulgare (Savi) Tenn.)
- Bulrush (see *Scirpus*)
- Bumelia lanuginosa* (Michx.) Pers. (Sapotaceae) (see *Sideroxylon lanuginosa* Michx.)
- Bumelia* sp. (Sapotaceae) *Monomacra bumeliae* (Schaeffer)
- Bunch bean (see *Phaseolus vulgaris* L.)
- Bunch grape (see *Vitis*)
- Bunchgrass (see *Andropogon* and similar genera)
- Bunias* sp. (Brassicaceae) *Phyllotreta punctulata* (Marsham)
- Bupleurum rotundifolium* L. (Apiaceae) *Calligrapha californica* Linell
- Burclover (see *Medicago*)
- Burdock (see *Arctium*)
- Bur-marigold (see *Bidens*)
- Bur-reed (see *Sparganium*)
- Burr sage (see *Ambrosia*)
- Bursa* sp. (Brassicaceae) (see *Capsella*)
- Bursera microphylla* A. Gray (Burseraceae) *Coleothorpa mucorea* (LeConte)
- Bush bean (see *Phaseolus vulgaris* L.)
- Bushberry (see *Gaylussacia*, *Ribes*, *Sambucus*, *Vac-*
cinium)
- Bush clover (see *Lespedeza*)
- Bushclover (see *Lespedeza*)
- Bush morning glory (see *Ipomoea leptophylla* J. Torr.)
- Bush squash (see *Cucurbita pepo* L.)
- Butter bean (see *Phaseolus lunatus* L.)
- Buttercup (see *Ranunculus*)
- Buttercup squash (see *Cucurbita maxima* Duchn. ex Lam.)
- Butterfly pea (see *Clitoria*)
- Butterfly weed (see *Asclepias tuberosa* L.)
- Butternut (see *Juglans cinerea* L.)
- Butternut squash (see *Cucurbita moschata* (Duchn. ex
Lam.) Duchn. ex Poir.)
- Buttonbush (see *Cephalanthus occidentalis* L.)
- Buttonclover (see *Medicago orbicularis* (L.) All.)
- Buttonwood (see *Platanus occidentalis* L.)
- Byrsonima crassifolia* (L.) Kunth in H. B. K. (Malpighiaceae) *Cryptocephalus trizonatus* Suffrian
- Byrsonima lucida* (Mill.) DC. (Malpighiaceae) *Cryptocephalus irroratus* Suffrian
- Cabbage (see *Brassica oleracea* L.)
- Cacao (see *Theobroma cacao* L.)

Leaf Beetles Listed by Plants

- Cajanus cajan* (L.) Millsp. (Fabaceae) *Cerotoma ruficornis* (Olivier), *Diabrotica balteata* LeConte
- Cajanus indicus* Spreng. (Fabaceae) (see *Cajanus cajan* (L.) Millsp.)
- Cajanus* sp. (Fabaceae) *Cerotoma atrofasciata* Jacoby, *Plagiometriona clavata* (Fabricius)
- Cakile americana* Nutt. (Brassicaceae) (see *Cakile edentula* (Bigel.) Hook.)
- Cakile edentula* (Bigel.) Hook. (Brassicaceae) *Altica foliaceae* LeConte, *Graphops varians* LeConte, *Longitarsus tenuicornis* Blatchley, *Phyllotreta chalybeipennis* (Crotch), *P. cruciferae* (Goeze), *P. striolata* (Fabricius)
- Cakile lanceolata* (Willd.) O. E. Schulz (Brassicaceae) *Psylliodes elegans* Horn
- Cakile maritima* Scop. (Brassicaceae) *Entomoscelis americana* Brown, *Phyllotreta cruciferae* (Goeze), *P. punctulata* (Marsham), *P. striolata* (Fabricius)
- Calamintha* sp. (Lamiaceae) *Longitarsus ferrugineus* (Foudras)
- Calendula* (see *Calendula*)
- Calendula* sp. (Asteraceae) *Acalymma vittatum* (Fabricius), *Diabrotica undecimpunctata* Mannerheim, *Systema blanda* Melsheimer
- California buckeye (see *Aesculus californica* (Spach) Nutt.)
- California burclover (see *Medicago polymorpha* L.)
- California Christmas berry (see *Heteromeles arbutifolia* (Lindl.) M. J. Roem.)
- California poppy (see *Eschscholzia californica* Cham.)
- Calla palustris* L. (Araceae) *Oulema palustris* (Blatchley)
- Calla* sp. (Araceae) *Plateumaris nitida* (Germar)
- Calliandra* sp. (Fabaceae) *Pachybrachis contractifrons* Fall
- Callicarpa americana* L. (Verbenaceae) *Capraita obsidiana* (Fabricius)
- Callicarpa* sp. (Verbenaceae) *Kuschelina petaurista* (Fabricius)
- Calliopsis* (see *Coreopsis*)
- Calliopsis* sp. (Asteraceae) (see *Coreopsis*)
- Callirhoë involucrata* (J. Torr. & A. Gray) A. Gray (Malvaceae) . . *Brachypnoea tristis* (Olivier), *Metrioidea blakeae* (Wilcox), *Rhabdopterus deceptor* Barber
- Callirhoë* sp. (Malvaceae) *Diabrotica virgifera* LeConte
- Callistephus chinensis* (L.) Benth. (Asteraceae) *Acalymma vittatum* (Fabricius), *Diabrotica undecimpunctata* Mannerheim, *Epitrix cucumeris* (Harris)
- Calochortus venustus* Dougl. ex Benth. (Liliaceae) *Colaspidea smaragdula* (LeConte)
- Calonyction* sp. (Convolvulaceae) (see *Ipomoea*)
- Caltha palustris* L. (Ranunculaceae) *Donacia porosicollis* Lacordaire, *Plateumaris flavipes* (Kirby), *P. frosti* (Schaeffer), *P. germari* (Mannerheim), *P. nitida* (Germar), *P. rufa* (Say), *Prasocuris boreala* (Schaeffer), *P. phellandrii* (Linnaeus)
- Calylophus berlandieri* Spach (Onagraceae) *Altica foliaceae* LeConte, *Graphops nebulosa* (LeConte)
- Calylophus hartwegii* (Benth.) Raven (Onagraceae) *Altica testacea* Fall, *Graphops comosa* Blake
- Calylophus serrulatus* (Nutt.) Raven (Onagraceae) *Altica texana* Schaeffer, *Graphops nebulosa* (LeConte)
- Calyptocarpus vialis* Less. (Asteraceae) *Cyclotrypema furcata* (Olivier)
- Calystegia inflata* Sweet (Convolvulaceae) (see *Calystegia sepium* (L.) R. Br.)
- Calystegia japonica* (Thunb.) Choisy (Convolvulaceae) *Aspidimorpha transparipennis* (Motschulsky)
- Calystegia longipes* (S. Watson) Brummit (Convolvulaceae) *Charidotella sexpunctata* (Fabricius), *Jonthonota nigripes* (Olivier)
- Calystegia macrostegia* (E. Greene) Brummitt (Convolvulaceae). . *Chaetocnema serpentina* White, *Charidotella sexpunctata* (Fabricius)
- Calystegia sepium* (L.) R. Br. (Convolvulaceae) *Agroiconota bivittata* (Say), *Calligrapha praecelsis* (Rogers), *Chaetocnema confinis* Crotch, *Charidotella purpurata* (Boheman), *C. sexpunctata* (Fabricius), *Chelymorpha cassidea* (Fabricius), *Deloyala guttata* (Olivier), *Diabrotica undecimpunctata* Mannerheim, *Epitrix cucumeris* (Harris), *E. fasciata* Blatchley, *Gastrophysa polygoni* (Linnaeus), *Jonthonota nigripes* (Olivier), *Labidomera clivicollis* (Kirby), *Longitarsus pellucidus* (Foudras), *L. rubiginosus* (Foudras), *Strongylocassis atripes* (LeConte), *Systema blanda* Melsheimer, *Typophorus nigritus* (Fabricius)

- Calystegia silvatica* (Kit. in Schrab.) Griseb. (Convolvulaceae) . . . *Longitarsus pellucidus* (Foudras), *L. rubiginosus* (Foudras)
- Calystegia silvestris* (Willd.) Roem. et Schutt. (Convolvulaceae) . . (see *Calystegia silvatica* (Kit. in Schrab.) Griseb.)
- Calystegia soldanella* (L.) R. Br. ex Roem. & Schult. (Convolvulaceae) . . *Cassida circumdata* Herbst
- Calystegia spithamea* (L.) Pursh (Convolvulaceae) *Charidotella sexpunctata* (Fabricius), *Chelymorpha cassidea* (Fabricius), *Deloyala guttata* (Olivier)
- Calystegia* sp. (Convolvulaceae) *Altica litigata* Fall, *Charidotella ormondensis* (Blatchley), *Epitrix hirtipennis* (Melsheimer), *Graphops tenuis* Blake, *Lema daturaphila* Kogan & Goeden, *Leptinotarsa decemlineata* (Say), *Oulema palustris* (Blatchley), *Paria quadrinotata* (Say), *Plagiometriona clavata* (Fabricius), *Psylliodes punctulatus* Melsheimer
- Camassia scilloides* (Raf.) Cory (Liliaceae) *Acalymma vittatum* (Fabricius)
- Camassia* sp. (Liliaceae) *Plateumaris pusilla* (Say)
- Camelina sativa* (L.) Crantz. (Brassicaceae) *Phyllotreta cruciferae* (Goeze), *P. undulata* (Kutschera)
- Camelina* sp. (Brassicaceae) *Entomoscelis americana* Brown
- Camellia* (see *Camellia*)
- Camellia japonica* L. (Theaceae) *Rhabdopterus bottimeri* Barber, *R. picipes* (Olivier)
- Camellia sasanqua* Thunb. (Theaceae) *Rhabdopterus picipes* (Olivier)
- Camellia sinensis* (L.) Kuntze (Theaceae) *Disonycha collata* (Fabricius)
- Camellia* sp. (Theaceae) *Charidotella sexpunctata* (Fabricius), *Colaspis recurva* Blake, *Diabrotica undecimpunctata* Mannerheim, *Rhabdopterus deceptor* Barber
- Camissonia brevipes* (A. Gray) P. H. Raven (Onagraceae) *Altica carinata* Germar, *A. torquata* LeConte
- Campanula* sp. (Campanulaceae) *Liliocerus lilii* (Scopoli)
- Camperdown elm (see *Ulmus glabra* Huds.)
- Campsis radicans* (L.) Seem. ex Bureau (Bignoniaceae) *Capraita circumdata* (Randall), *C. thymoides* (Crotch), *Epitrix fasciata* Blatchley, *Octotoma plicatula* (Fabricius)
- Canada sumach (see *Rhus aromatica* Ait.)
- Canada thistle (see *Cirsium arvense* (L.) Scop.)
- Canadian bluegrass (see *Poa compressa* L.)
- Cañagre (see *Rumex hymenosepalus* J. Torr.)
- Canangium odoratum* (Lam.) Baill. ex King (Annonaceae) *Diabrotica balteata* LeConte
- Canary grass (see *Phalaris*)
- Canavalia* sp. (Fabaceae) *Cerotoma trifurcata* (Forster), *Diabrotica undecimpunctata* Mannerheim
- Candytuft (see *Iberis*)
- Cane (see *Arundinaria*, *Saccharum officinarum* L.)
- Canna (see *Canna*)
- Canna indica* L. (Cannaceae) *Diabrotica undecimpunctata* Mannerheim
- Canna* sp. (Cannaceae) *Systema hudsonias* (Forster)
- Cannabis sativa* L. (Cannabaceae) *Brachypnoea clypealis* (Horn), *B. tristis* (Olivier), *Chaetocnema concinna* (Marsham), *C. denticulata* (Illiger), *C. pulicaria* Melsheimer, *Diabrotica undecimpunctata* Mannerheim, *D. virgifera* LeConte, *Disonycha glabrata* (Fabricius), *Epitrix fuscula* Crotch, *Luperaltica nigripalpis* (LeConte), *Oulema melanopus* (Linnaeus), *Psylliodes punctulatus* Melsheimer, *Systema blanda* Melsheimer, *S. elongata* (Fabricius)
- Cannabis* sp. (Cannabaceae) *Phyllotreta lewisii* (Crotch)
- Canola (see *Brassica*)
- Cantaloupe (see *Cucumis melo* L.)
- Cape-gooseberry (see *Physalis peruviana* L.)
- Cape-jasmine (see *Gardenia jasminoides* J. Ellis)
- Caperonia palustris* (L.) St.-Hil. (Euphorbiaceae) *Nesaecrepida asphaltina* (Suffrian)
- Capsella bursa-pastoris* (L.) Medik. (Brassicaceae) *Entomoscelis americana* Brown, *Leptinotarsa decemlineata* (Say), *Phyllotreta albionica* (LeConte), *P. bipustulata* (Fabricius), *P. cruciferae* (Goeze), *P. striolata* (Fabricius), *P. zimmermanni* (Crotch), *Psylliodes chrysocephalus* (Linnaeus), *P. convexior* LeConte, *Systema blanda* Melsheimer
- Capsicum annuum* L. (Solanaceae) *Acalymma vittatum* (Fabricius), *Cerotoma ruficornis* (Olivier), *Chaetocnema ectypa* Horn, *Charidotella sexpunctata* (Fabricius), *Colaspis*

Leaf Beetles Listed by Plants

- brunnea* (Fabricius), *C. planicostata* Blake, *Cryptocephalus nigrocinctus* Suffrian, *Diabrotica balteata* LeConte, *D. undecimpunctata* Mannerheim, *Disonycha glabrata* (Fabricius), *Epitrix brevis* Schwarz, *E. cucumeris* (Harris), *E. fasciata* Blatchley, *E. hirtipennis* (Melsheimer), *E. subcrinita* (LeConte), *E. tuberi* Gentner, *Gratiana pallidula* (Boheman), *Lema daturaphila* Kogan & Goeden, *Leptinotarsa decemlineata* (Say), *Neolochmaea oblitterata* (Olivier), *Nesaecrepida asphaltina* (Suffrian), *Phyllotreta cruciferae* (Goeze), *P. striolata* (Fabricius), *Strabala rotunda* Blake, *Systema blanda* Melsheimer, *S. elongata* (Fabricius)
- Capsicum baccatum* L. (Solanaceae) *Epitrix fasciata* Blatchley
- Capsicum frutescens* L. (Solanaceae) (see *Capsicum annuum* L.)
- Capsicum frutescens* var. *grossum* L. H. Bailey (Solanaceae) (see *Capsicum annuum* L.)
- Capsicum indicum* Dierb. (Solanaceae) *Leptinotarsa decemlineata* (Say)
- Capsicum pendulum* Willd. (Solanaceae) (see *Capsicum baccatum* L.)
- Capsicum* sp. (Solanaceae) *Cerotoma trifurcata* (Forster), *Chaetocnema denticulata* (Illiger), *Deloyala guttata* (Olivier), *Disonycha leptolineata* Blatchley, *Graphops curtipennis* (Melsheimer), *Lema trabeata* Lacordaire, *Metachroma angustulum* Crotch, *Microtheca ochroloma* Stål, *Phyllotreta zimmermanni* (Crotch), *Plagiometriona clavata* (Fabricius)
- Cardamine amara* L. (Brassicaceae) *Psylliodes napi* (Fabricius)
- Cardamine bulbosa* (Schreb. ex Muhl.) B.S.P. (Brassicaceae) *Phyllotreta oblonga* Chittenden
- Cardamine concatenata* (Michx.) O. Schwarz (Brassicaceae) *Galeruca browni* Blake, *G. externa* Say, *Phyllotreta bipustulata* (Fabricius), *P. zimmermanni* (Crotch)
- Cardamine diphylla* (Michx.) Wood (Brassicaceae) *Phyllotreta bipustulata* (Fabricius), *P. cruciferae* (Goeze), *P. striolata* (Fabricius), *P. zimmermanni* (Crotch), *Psylliodes napi* (Fabricius), *P. punctulatus* Melsheimer
- Cardamine douglassii* (Torr.) Britt. (Brassicaceae) *Phyllotreta bipustulata* (Fabricius)
- Cardamine flexuosa* With. (Brassicaceae) *Phyllotreta striolata* (Fabricius)
- Cardamine hirsuta* L. (Brassicaceae) *Phaedon armoraciae* (Linnaeus)
- Cardamine impatiens* L. (Brassicaceae) *Phyllotreta undulata* (Kutschera), *Psylliodes napi* (Fabricius)
- Cardaria draba* (L.) Desv. (Brassicaceae) *Entomoscelis americana* Brown, *Galeruca costatissima* Blake, *Gastrophysa polygoni* (Linnaeus), *Oulema melanopus* (Linnaeus), *Phyllotreta cruciferae* (Goeze), *P. striolata* (Fabricius), *P. undulata* (Kutschera), *Systema blanda* Melsheimer
- Cardaria* sp. (Brassicaceae) *Phyllotreta prasina* Chittenden, *P. pusilla* Horn
- Cardinal grape (see *Vitis vinifera* L.)
- Carduus acanthoides* L. (Asteraceae) *Altica carduorum* Guérin-Ménéville, *Cassida rubiginosa* Müller, *Psylliodes chalconeris* (Illiger), *Sphaeroderma testaceum* (Fabricius)
- Carduus crispus* L. (Asteraceae) *Altica carduorum* Guérin-Ménéville, *Cassida rubiginosa* Müller, *Lema puncticollis* (Curtis), *Psylliodes chalconeris* (Illiger), *Sphaeroderma testaceum* (Fabricius)
- Carduus defloratus* L. (Asteraceae) *Altica carduorum* Guérin-Ménéville, *Cassida rubiginosa* Müller, *Lema puncticollis* (Curtis), *Sphaeroderma testaceum* (Fabricius)
- Carduus lecontei* Pollard (Asteraceae) *Diabrotica longicornis* (Say)
- Carduus macrocephalus* Desf. (Asteraceae) (see *Carduus nutans* L.)
- Carduus nutans* L. (Asteraceae) *Altica carduorum* Guérin-Ménéville, *Brachypnoea tristis* (Olivier), *Cassida rubiginosa* Müller, *Chaetocnema confinis* Crotch, *Chrysolina hyperici* (Forster), *Diabrotica undecimpunctata* Mannerheim, *Diachus auratus* (Fabricius), *Epitrix cucumeris* (Harris), *Gastrophysa polygoni* (Linnaeus), *Lema puncticollis* (Curtis), *Leptinotarsa decemlineata* (Say), *Longitarsus jacobaeae* (Waterhouse), *L. testaceus* (Melsheimer), *Oulema melanopus* (Linnaeus), *Psylliodes chalconeris* (Illiger), *P. punctulatus* Melsheimer, *Sphaeroderma testaceum* (Fabricius), *Systema elongata* (Fabricius), *S. frontalis* (Fabricius), *Xanthogaleruca luteola* (Müller)
- Carduus personata* (L.) Jacq. (Asteraceae) *Altica carduorum* Guérin-Ménéville, *Cassida rubiginosa* Müller, *Sphaeroderma testaceum* (Fabricius)
- Carduus pycnocephalus* L. (Asteraceae) *Altica carduorum* Guérin-Ménéville, *Cassida rubiginosa* Müller, *Diabrotica undecimpunctata* Mannerheim, *Gastrophysa polygoni* (Linnaeus), *Oulema melanopus* (Linnaeus), *Psylliodes chalconeris* (Illiger), *Systema blanda* Melsheimer, *Xanthogaleruca luteola* (Müller)
- Carduus spinosissimus* Walt. (Asteraceae) (see *Cirsium horridulum* Michx.)
- Carduus tenuiflorus* W. Curt. (Asteraceae) *Altica carduorum* Guérin-Ménéville, *Cassida rubiginosa* Müller, *Oulema melanopus* (Linnaeus)

<i>Carduus thoermeri</i> Weinmann (Asteraceae)	<i>Cassida rubiginosa</i> Müller
<i>Carduus</i> sp. (Asteraceae)	<i>Chaetocnema denticulata</i> (Illiger), <i>Chrysolina inornata</i> (Rogers), <i>Diabrotica virgifera</i> LeConte, <i>Kuschelina fimbriata</i> (Forster), <i>Neolema ephippium</i> (Lacordaire), <i>Psylliodes chrysocephalus</i> (Linnaeus), <i>Rhabdopterus blatchleyi</i> Bowditch
<i>Carex crinita</i> Lam. (Cyperaceae)	<i>Donacia biimpressa</i> Melsheimer
<i>Carex hyalinolepis</i> Steud. (Cyperaceae)	<i>Stenispa metallica</i> (Fabricius)
<i>Carex limosa</i> L. (Cyperaceae)	<i>Donacia cazieri</i> Marx
<i>Carex lugens</i> Holm (Cyperaceae)	<i>Chrysolina subsulcata</i> (Mannerheim)
<i>Carex rostrata</i> Stokes (Cyperaceae)	(see <i>Carex utriculata</i> Boott)
<i>Carex stans</i> Drejer (Cyperaceae)	<i>Chrysolina subsulcata</i> (Mannerheim)
<i>Carex stricta</i> Lam. (Cyperaceae)	<i>Donacia biimpressa</i> Melsheimer, <i>Plateumaris frosti</i> (Schaeffer), <i>P. metallica</i> (Ahrens), <i>P. nitida</i> (Germar), <i>P. pusilla</i> (Say), <i>P. rufa</i> (Say), <i>Stenispa metallica</i> (Fabricius)
<i>Carex torta</i> Boott ex Tuckerman (Cyperaceae)	<i>Chaetocnema opulenta</i> Horn
<i>Carex utriculata</i> Boott (Cyperaceae)	<i>Donacia distincta</i> LeConte, <i>Plateumaris germari</i> (Mannerheim)
<i>Carex</i> sp. (Cyperaceae)	<i>Chaetocnema difficilis</i> White, <i>C. irregularis</i> LeConte, <i>C. subconvexa</i> White, <i>Donacia liebecki</i> Schaeffer, <i>D. limonia</i> Schaeffer, <i>D. porosicollis</i> Lacordaire, <i>D. tuberculifrons</i> Schaeffer, <i>Neolema cordata</i> White, <i>Oulema sayi</i> (Crotch), <i>O. texana</i> (Crotch), <i>Pachybrachis othonus</i> (Say), <i>Plateumaris aurifera</i> (LeConte), <i>P. balli</i> Askevold, <i>P. diversa</i> (Schaeffer), <i>P. dubia</i> (Schaeffer), <i>P. flavipes</i> (Kirby), <i>P. fulvipes</i> (Lacordaire), <i>P. neomexicana</i> (Schaeffer), <i>P. robusta</i> (Schaeffer), <i>P. shoemakeri</i> (Schaeffer), <i>Poecilocera harrisii</i> (LeConte), <i>Prasocuris ovalis</i> Blatchley
<i>Carica</i> sp. (Caricaceae)	<i>Lema daturaphila</i> Kogan & Goeden
<i>Carissa</i> sp. (Apocynaceae)	<i>Cryptocephalus nigrocinctus</i> Suffrian
<i>Carlina</i> sp. (Asteraceae)	<i>Cassida rubiginosa</i> Müller, <i>Sphaeroderma testaceum</i> (Fabricius)
Carolina poplar	(see <i>Populus x canadensis</i> Moench)
<i>Carpinus caroliniana</i> Walt. (Betulaceae)	<i>Altica chalybea</i> Illiger, <i>Baliosus nervosus</i> (Panzer), <i>Diabrotica undecimpunctata</i> Mannerheim, <i>Orsodacne atra</i> (Ahrens), <i>Paria scutellaris</i> (Notman), <i>Scelolyperus liriophilus</i> Wilcox, <i>Tymnes tricolor</i> (Fabricius), <i>Xanthonia villosula</i> (Melsheimer)
Carrot	(see <i>Daucus carota</i> L.)
<i>Carthamus tinctorius</i> L. (Asteraceae)	<i>Cassida rubiginosa</i> Müller, <i>Chaetocnema ectypa</i> Horn, <i>Psylliodes chalcomerus</i> (Illiger)
<i>Carthamus</i> sp. (Asteraceae)	<i>Altica carduorum</i> Guérin-Méneville
<i>Carya alba</i> (L.) Nutt. ex Ell. (Juglandaceae)	<i>Odontota dorsalis</i> (Thunberg)
<i>Carya amara</i> Nutt. (Juglandaceae)	<i>Cryptocephalus badius</i> Suffrian
<i>Carya cordiformis</i> (Wang.) K. Koch (Juglandaceae)	<i>Anomoea laticlavata</i> (Forster), <i>Babia quadriguttata</i> (Olivier), <i>Coleothorpa dominicana</i> (Fabricius)
<i>Carya glabra</i> (Mill.) Sweet (Juglandaceae)	<i>Rhabdopterus picipes</i> (Olivier), <i>Systema marginalis</i> (Illiger)
<i>Carya illinoensis</i> (Wang.) K. Koch (Juglandaceae)	<i>Anomoea laticlavata</i> (Forster), <i>A. rufifrons</i> (Lacordaire), <i>Babia quadriguttata</i> (Olivier), <i>Brachypnoea tristis</i> (Olivier), <i>Chrysochus auratus</i> (Fabricius), <i>Colaspis brunnea</i> (Fabricius), <i>C. costipennis</i> Crotch, <i>C. pseudofavosa</i> Riley, <i>Derospidea brevicollis</i> (LeConte), <i>Diabrotica virgifera</i> LeConte, <i>Epitrix fasciata</i> Blatchley, <i>Exema gibber</i> (Fabricius), <i>Glyptina ferruginea</i> Blatchley, <i>Glyptoscelis albicans</i> Baly, <i>Metachroma interruptum</i> (Say), <i>M. marginale</i> Crotch, <i>M. quercatum</i> (Fabricius), <i>Monocesta coryli</i> (Say), <i>Pachybrachis spumarius</i> Suffrian, <i>Paria opacicollis</i> LeConte, <i>Rhabdopterus picipes</i> (Olivier), <i>Systema marginalis</i> (Illiger), <i>Tymnes tricolor</i> (Fabricius)
<i>Carya leioderms</i> Sarg. (Juglandaceae)	(see <i>Carya glabra</i> (Mill.) Sweet)
<i>Carya ovata</i> (Mill.) K. Koch (Juglandaceae)	<i>Odontota dorsalis</i> (Thunberg), <i>Systema marginalis</i> (Illiger), <i>Tymnes metasternalis</i> (Crotch), <i>Xanthonia villosula</i> (Melsheimer)
<i>Carya tomentosa</i> (Lam. ex Poir.) Nutt. (Juglandaceae)	(see <i>Carya alba</i> (L.) Nutt. ex Ell.)
<i>Carya</i> sp. (Juglandaceae)	<i>Bassareus lituratus</i> (Fabricius), <i>B. mamifer</i> (Newman), <i>Charidotella sexpunctata</i> (Fabricius), <i>Cryptocephalus guttulatus</i> Olivier, <i>C. mutabilis</i> Melsheimer, <i>C. tinctus</i> LeConte, <i>Diachus auratus</i> (Fabricius), <i>Glyptoscelis barbata</i> (Say), <i>G. pubescens</i> (Fabricius), <i>Leptinotarsa juncta</i> (Germar), <i>Lupraea picta</i> (Say), <i>Pachybrachis femoratus</i> (Olivier), <i>P. othonus</i> (Say), <i>P. peccans</i> Suffrian, <i>P. tridens</i> (Melsheimer), <i>Paria canella</i> (Fabricius), <i>P. quadriguttata</i> LeConte, <i>P. quadrinotata</i> (Say), <i>P. sexnotata</i> (Say), <i>Phyllotreta striolata</i> (Fabricius), <i>P. undulata</i>

Leaf Beetles Listed by Plants

- (Kutschera), *P. zimmermanni* (Crotch), *Systema sexnotata* Fall, *Tymnes violaceus* Horn, *Xanthonia serrata* Staines & Weisman, *X. stevensi* Baly, *X. striata* Staines & Weisman, *Zeugophora scutellaris* Suffrian
- Cassandra* sp. (Ericaceae) (see *Chamaedaphne*, but note that *Cassandra* (Ericaceae) is not the same as *Cassandra* (Solanaceae))
- Cassava (see *Manihot esculenta* Crantz)
- Cassia acutifolia* Delile (Fabaceae) (see *Senna alexandrina* Mill.)
- Cassia chamaecrista* L. (Fabaceae) (see *Chamaecrista fasciculata* (Michx.) Greene)
- Cassia* sp. (Fabaceae) *Coleothorpa axillaris* (LeConte), *Cryptocephalus albicans* Haldeman, *C. trizonatus* Suffrian, *Kuschelina petaurista* (Fabricius), *Metaparia clytroides* Crotch
- Castalia* sp. (Nymphaeaceae) (see *Nymphaea*)
- Castanea crenata* Sieb. & Zucc. (Fagaceae) *Brachypnoea puncticollis* (Say)
- Castanea* sp. (Fagaceae) *Baliosus nervosus* (Panzer), *Longitarsus cotulus* Blatchley, *Metachroma quercatum* (Fabricius), *Neochlamisus gibbosus* (Fabricius), *Odontota dorsalis* (Thunberg), *Scelolyperus meracus* (Say), *Tricholochmaea cavicollis* (LeConte), *Tymnes tricolor* (Fabricius)
- Castilleja applegatei* Fern. (Scrophulariaceae) *Oulema concolor* (LeConte)
- Castilleja* sp. (Scrophulariaceae) *Diabrotica virgifera* LeConte
- Castorbean (see *Ricinus communis* L.)
- Catalpa (see *Catalpa*)
- Catalpa speciosa* (Warder) Warder ex Engelm. (Bignoniaceae) . . . *Diabrotica virgifera* LeConte
- Catalpa* sp. (Bignoniaceae) *Chaetocnema confinis* Crotch, *Diabrotica undecimpunctata* Mannerheim, *Disonycha alternata* (Illiger)
- Catawba grape (see *Vitis labrusca* L.)
- Catharanthus roseus* (L.) G. Don (Apocynaceae) *Aphthona nigriscutis* Foudras, *Blepharidara rhois* (Forster)
- Catnip (see *Nepeta cataria* L.)
- Catsclaw (see *Acacia*, *Schrankia*)
- Cat's claw (see *Acacia*, *Schrankia*)
- Cattail (see *Typha*)
- Cattleya guava* (see *Psidium cattleianum* Sabine)
- Cattlya guava* (see *Psidium cattleianum* Sabine)
- Cauliflower (see *Brassica oleracea* L.)
- Cayenne pepper (see *Capsicum annuum* L.)
- Ceanothus (see *Ceanothus*)
- Ceanothus americanus* L. (Rhamnaceae) *Anomoea laticlavata* (Forster), *Babia quadriguttata* (Olivier), *Bassareus detritus* (Olivier), *B. lituratus* (Fabricius), *B. mammifer* (Newman), *Brachypnoea margaretae* (Schultz), *B. puncticollis* (Say), *Colaspis brunnea* (Fabricius), *Coleothorpa dominicana* (Fabricius), *Cryptocephalus mutabilis* Melsheimer, *C. notatus* Fabricius, *C. venustus* Fabricius, *Diabrotica cristata* (Harris), *D. undecimpunctata* Mannerheim, *D. virgifera* LeConte, *Metachroma angustulum* Crotch, *Pachybrachis atomarius* (Melsheimer), *P. luridus* (Fabricius), *P. othonus* (Say), *P. spumarius* Suffrian, *P. tridens* (Melsheimer), *P. trinotatus* (Melsheimer), *Spintherophyta globosa* (Olivier), *Triachus cerinus* LeConte
- Ceanothus buxifolius* Willd. ex Schult. f. (Rhamnaceae) *Neochlamisus molestificus* (Lacordaire)
- Ceanothus cordulatus* Kellogg (Rhamnaceae) *Pachybrachis melanostictus* Suffrian
- Ceanothus crassifolius* J. Torr. (Rhamnaceae) *Synetocephalus autumnalis* Fall
- Ceanothus cuneatus* (Hook.) Nutt. (Rhamnaceae) *Altica ambiens* LeConte, *Brachycoryna dolorosa* Van Dyke, *Pachybrachis californicus* Fall, *P. lustrans* LeConte, *P. varicolor* Suffrian, *Scelolyperus torquatus* (LeConte), *S. transitus* (Horn), *Synetocephalus autumnalis* Fall
- Ceanothus divaricatus* Boland (Rhamnaceae) (see *Ceanothus cordulatus* Kellogg)
- Ceanothus divaricatus* Nutt. (Rhamnaceae) (see *Ceanothus oliganthus* Nutt.)
- Ceanothus fendleri* A. Gray (Rhamnaceae) *Babia quadriguttata* (Olivier), *Baliosus californicus* (Horn), *Cryptocephalus arizonensis* Schaeffer, *C. pinicola* Schaeffer, *Neochlamisus molestificus* (Lacordaire), *Ophraella artemisiae* Futuyma, *Synetocephalus atricornis* (Fall)
- Ceanothus herbaceus* Raf. (Rhamnaceae) *Brachypnoea lecontei* Riley, Clark, & Seeno, *Cryptocephalus notatus* Fabricius, *Pachybrachis luridus* (Fabricius), *Spintherophyta globosa* (Olivier)

<i>Ceanothus integerrimus</i> Hook. & Arn. (Rhamnaceae)	<i>Altica ambiens</i> LeConte, <i>Baliosus californicus</i> (Horn), <i>Diachus auratus</i> (Fabricius), <i>Scelolyperus torquatus</i> (LeConte), <i>S. varipes</i> (LeConte)
<i>Ceanothus laevigatus</i> DC. (Rhamnaceae)	<i>Scelolyperus schwarzii</i> Horn, <i>S. varipes</i> (LeConte)
<i>Ceanothus leucodermis</i> E. L. Greene (Rhamnaceae)	<i>Baliosus californicus</i> (Horn), <i>Brachycoryna hardyi</i> (Crotch)
<i>Ceanothus oliganthus</i> Nutt. (Rhamnaceae)	<i>Pachybrachis melanostictus</i> Suffrian
<i>Ceanothus ovatus</i> auct. (Rhamnaceae)	(see <i>Ceanothus herbaceus</i> Raf.)
<i>Ceanothus sanguineus</i> Pursh (Rhamnaceae)	<i>Altica prasina</i> LeConte, <i>Brachycoryna hardyi</i> (Crotch), <i>Scelolyperus varipes</i> (LeConte)
<i>Ceanothus thyrsiflorus</i> Eschsch. (Rhamnaceae)	<i>Scelolyperus varipes</i> (LeConte)
<i>Ceanothus velutinus</i> Dougl. ex Hook. (Rhamnaceae)	<i>Brachycoryna hardyi</i> (Crotch), <i>Diachus erasus</i> LeConte, <i>Glyptoscelis longior</i> LeConte, <i>Scelolyperus varipes</i> (LeConte)
<i>Ceanothus</i> sp. (Rhamnaceae)	<i>Babia tetraspilota</i> LeConte, <i>Brachycoryna melsheimeri</i> (Crotch), <i>Brachypnoea tristis</i> (Olivier), <i>Colaspidea smaragdula</i> (LeConte), <i>Cryptocephalus pubiventris</i> Schaeffer, <i>C. sanguinicollis</i> Suffrian, <i>Deloyala guttata</i> (Olivier), <i>Glyptina cerina</i> (LeConte), <i>Griburius scutellaris</i> (Fabricius), <i>Orthaltica copalina</i> (Fabricius), <i>Pachybrachis signatifrons</i> Mannerheim, <i>Rhabdopterus bottimeri</i> Barber, <i>Saxinis deserticola</i> Moldenke, <i>S. hornii</i> Fall, <i>S. knausii</i> Schaeffer, <i>S. omogera</i> Lacordaire, <i>S. saucia</i> LeConte, <i>Scelolyperus smaragdinus</i> (LeConte), <i>Triachus atomus</i> (Suffrian), <i>Tymnes oregonensis</i> (Crotch)
Cedar	(see <i>Chamaecyparis</i> , <i>Juniperus</i> , <i>Thuja</i> , etc.)
<i>Cedrela mexicana</i> M. J. Roem. (Meliaceae)	<i>Colaspis brunnea</i> (Fabricius)
<i>Cedrus deodara</i> (Roxb. ex D. Don) G. Don f. (Pinaceae)	<i>Colaspis pini</i> Barber
<i>Celastrus scandens</i> L. (Celastraceae)	<i>Sumitrosis inaequalis</i> (Weber)
Celery	(see <i>Apium</i>)
<i>Celtis laevigata</i> Willd. (Ulmaceae)	<i>Diabrotica virgifera</i> LeConte, <i>Epitrix fasciata</i> Blatchley, <i>Spintherophyta globosa</i> (Olivier)
<i>Celtis mississippiensis</i> Bosc. (Ulmaceae)	(see <i>Celtis laevigata</i> Willd.)
<i>Celtis pallida</i> J. Torr. (Ulmaceae)	<i>Glyphuroplata uniformis</i> (Smith)
<i>Celtis</i> sp. (Ulmaceae)	<i>Brachypnoea puncticollis</i> (Say), <i>B. tristis</i> (Olivier), <i>Coleothorpa mucorea</i> (LeConte), <i>Cryptocephalus guttulatus</i> Schaeffer, <i>Derocrepis erythropus</i> (Melsheimer), <i>Rhabdopterus praetextus</i> (Say)
<i>Cenchrus</i> sp. (Poaceae)	<i>Cerotoma atrofasciata</i> Jacoby, <i>Leptinotarsa decemlineata</i> (Say), <i>Systema blanda</i> Melsheimer
<i>Centaurea cineraria</i> L. (Asteraceae)	<i>Psylliodes chalcomerus</i> (Illiger)
<i>Centaurea cyanus</i> L. (Asteraceae)	<i>Cassida rubiginosa</i> Müller, <i>Psylliodes chalcomerus</i> (Illiger)
<i>Centaurea diffusa</i> Lam. (Asteraceae)	<i>Cassida rubiginosa</i> Müller
<i>Centaurea jacea</i> L. (Asteraceae)	<i>Cassida rubiginosa</i> Müller, <i>Psylliodes chalcomerus</i> (Illiger)
<i>Centaurea montana</i> L. (Asteraceae)	<i>Cassida rubiginosa</i> Müller, <i>Psylliodes chalcomerus</i> (Illiger)
<i>Centaurea moschata</i> L. (Asteraceae)	(see <i>Amberboa moschata</i> (L.) DC.)
<i>Centaurea nigra</i> L. (Asteraceae)	<i>Cassida rubiginosa</i> Müller
<i>Centaurea nigrescens</i> Willd. (Asteraceae)	<i>Cassida rubiginosa</i> Müller
<i>Centaurea scabiosa</i> L. (Asteraceae)	<i>Cassida rubiginosa</i> Müller, <i>Longitarsus luridus</i> (Scopoli)
<i>Centaurea solstitialis</i> L. (Asteraceae)	<i>Cassida rubiginosa</i> Müller, <i>Chaetocnema concinna</i> (Marsham), <i>Psylliodes chalcomerus</i> (Illiger)
<i>Centaurea stoebe</i> L. (Asteraceae)	<i>Cassida rubiginosa</i> Müller
<i>Centaurea</i> sp. (Asteraceae)	<i>Altica carduorum</i> Guérin-Ménéville, <i>Oulema melanopus</i> (Linnaeus)
<i>Centrosema macrocarpum</i> Benth. (Fabaceae)	<i>Xenochalepus omogerus</i> (Crotch)
<i>Cephalanthus occidentalis</i> L. (Rubiaceae)	<i>Bassareus brunnipes</i> (Olivier), <i>Calligrapha cephalanthi</i> (Schwarz), <i>Capraita obsidiana</i> (Fabricius), <i>Diabrotica virgifera</i> LeConte, <i>Lexiphanes saponatus</i> (Fabricius), <i>Monocesta coryli</i> (Say), <i>Rhabdopterus bottimeri</i> Barber, <i>Systema frontalis</i> (Fabricius)
<i>Cephalanthus</i> sp. (Rubiaceae)	<i>Longitarsus cotulus</i> Blatchley

Leaf Beetles Listed by Plants

- Cephalaria mauritanica* Pomel (Dipsacaceae) *Longitarsus luridus* (Scopoli)
Cephalaria syriaca (L.) Schrader ex Roem. & Schult. (Dipsacaceae) .. *Longitarsus luridus* (Scopoli)
Cerastium tomentosum L. (Caryophyllaceae) *Cassida azurea* Fabricius
Cerastium fontanum Baumg. (Caryophyllaceae) *Cassida azurea* Fabricius, *C. flaveola*
Thunberg, *Disonycha xanthomelas* (Dalman)
Cerastium vulgatum L. (Caryophyllaceae) (see *Cerastium fontanum* Baumg.)
Cerastium sp. (Caryophyllaceae) *Disonycha triangularis* (Say)
Cerasus borealis Michx. (Rosaceae) (see *Prunus pensylvanica* L. f.)
Ceratiola ericoides Michx. (Empetraceae) *Triachus cerinus* LeConte
Ceratophyllum demersum L. (Ceratophyllaceae) *Phaedon armoraciae* (Linnaeus)
Cercidium sp. (Fabaceae) *Coleorozena vittata* (LeConte), *Coleo-*
thorpa mucorea (LeConte), *Monoxia sordida* LeConte, *Saxinis deserticola* Moldenke, *S. sonorensis*
Jacoby
Cercis canadensis L. (Fabaceae) *Acallepatrix nitens* (Horn), *Acalymma*
vittatum (Fabricius), *Altica chalybea* Illiger, *A. kalmiae* (Melsheimer), *Babia quadriguttata* (Olivier),
Baliosus nervosus (Panzer), *Bassareus mammifer* (Newman), *Brachypnoea tristis* (Olivier), *Capraita*
sexmaculata (Illiger), *Chaetocnema confinis* Crotch, *Charidotella sexpunctata* (Fabricius), *Chrysomela*
interrupta Fabricius, *Colaspis brunnea* (Fabricius), *Crepidodera nana* (Say), *Cryptocephalus ba-*
dii Suffrian, *C. guttulatus* Olivier, *C. mutabilis* Melsheimer, *Derocrepis erythropus* (Melsheimer),
Diabrotica longicornis (Say), *D. undecimpunctata* Mannerheim, *Diachus auratus* (Fabricius), *Dibolia*
borealis Chevrolat, *Distigmoptera pilosa* (Illiger), *Epitrix brevis* Schwarz, *E. fuscula* Crotch, *Exema*
dispar Lacordaire, *E. gibber* (Fabricius), *Fidia longipes* (Melsheimer), *F. viticida* Walsh, *Glyptina spu-*
ria LeConte, *Lema daturaphila* Kogan & Goeden, *Odontota dorsalis* (Thunberg), *Ophraella americana*
(Fabricius), *Orsodacne atra* (Ahrens), *Orthaltica copalina* (Fabricius), *Pachybrachis obfuscatus* Fall,
P. obsoletus Suffrian, *P. pectoralis* (Melsheimer), *Paria aterrima* (Olivier), *P. quadrinotata* (Say), *P.*
sexnotata (Say), *Phyllecthris gentilis* (LeConte), *Phyllotreta zimmermanni* (Crotch), *Rhabdopterus*
picipes (Olivier), *Systema marginalis* (Illiger), *Xanthonia villosula* (Melsheimer), *Zygogramma suturalis*
(Fabricius)
Cercis occidentalis Torr. ex Gray (Fabaceae) (see *Cercis canadensis* L.)
Cercocarpus sp. (Rosaceae) *Colaspidea smaragdula* (LeConte), *Cryp-*
tocephalus pinicola Schaeffer
Cerinthe minor L. (Boraginaceae) *Longitarsus quadriguttatus* (Pontoppidan)
Cestrum (see *Cestrum*)
Cestrum aurantiacum Lindl. (Solanaceae) *Lema daturaphila* Kogan & Goeden, *L.*
nigrovittata (Guérin-Ménéville)
Cestrum nocturnum L. (Solanaceae) *Omophoita cyanipennis* (Fabricius)
Chaenactis sp. (Asteraceae) *Pseudoluperus longulus* (LeConte)
Chaenorrhinum sp. (Scrophulariaceae) *Kuschelina barberi* (Blake)
Chaerophyllum procumbens (L.) Crantz (Apiaceae) *Acalymma vittatum* (Fabricius), *Mantura*
floridana Crotch
Chamaebatiaria millefolium (Torr.) Maxim. (Rosaceae) *Dibolia borealis* Chevrolat, *Pachybrachis*
vacillatus Fall, *Phyllotreta albionica* (LeConte)
Chamaecrista fasciculata (Michx.) Greene (Fabaceae) *Cerotoma trifurcata* (Forster), *Chaetocnema*
confinis Crotch, *Disonycha admirabilia* Blatchley, *Sumitrosis ancoroides* (Schaeffer), *S. pallescens* (Baly)
Chamaecrista nictitans (L.) Moench (Fabaceae) *Baliosus nervosus* (Panzer), *Sumitrosis*
ancoroides (Schaeffer), *S. inaequalis* (Weber), *S. pallescens* (Baly)
Chamaecrista sp. (Fabaceae) *Diabrotica virgifera* LeConte
Chamaecyparis thyoides (L.) B.S.P. (Cupressaceae) *Paria blatchleyi* Wilcox
Chamaecyparis sp. (Cupressaceae) *Calligrapha alni* Schaeffer, *Cryptocephalus*
cupressi Schaeffer, *Odontota scapularis* (Olivier), *Syneta ferruginea* (Germar)
Chamaedaphne calyculata (L.) Moench (Ericaceae) *Bassareus formosus* (Melsheimer), *Cryp-*
tocephalus schreibersii Suffrian, *Lexiphanes saponatus* (Fabricius), *Neochlamisus chamaedaphnes*
(Brown), *Pachybrachis othonus* (Say)
Chamaedaphne sp. (Ericaceae) *Sumitrosis inaequalis* (Weber)
Chamaenerion spicatum S. F. Gray (Onagraceae) (see *Chamerion angustifolium* (L.) Holub)
Chamaerops humilis L. (Arecaceae) *Hemisphaerota cyanea* (Say)
Chamaerops serrulata Michx. (Arecaceae) *Hemisphaerota cyanea* (Say)
Chamaesaracha coniodes (Moric. ex Dunal) Britt. (Solanaceae) .. *Lema daturaphila* Kogan & Goeden, *L.*
trabeata Lacordaire, *L. trivittata* Say

- Chamaesaracha coronopus* (Dun.) A. Gray (Solanaceae) *Lema daturaphila* Kogan & Goeden
- Chamaesaracha sordida* (Dun.) Gray (Solanaceae) *Parorectis sublaevis* (Barber)
- Chamaesyce blodgettii* (Engelm. ex Hitch.) Small (Euphorbiaceae) . . *Glyptina spuria* LeConte
- Chamaesyce maculata* (L.) Small (Euphorbiaceae) *Glyptina brunnea* Horn, *G. leptosoma* Blatchley, *G. spuria* LeConte
- Chamaesyce nutans* (Lag.) Small (Euphorbiaceae) *Aphthona lacertosa* (Rosenhauer)
- Chamaesyce prostrata* (Aiton) Small (Euphorbiaceae) *Aphthona abdominalis* (Duftschmid), *A. lacertosa* (Rosenhauer), *A. nigriscutis* Foudras
- Chamerion angustifolium* (L.) Holub (Onagraceae) *Altica corni* Woods, *A. foliaceae* LeConte, *A. ignita* Illiger, *A. rosae* Woods, *A. tombacina* Mannerheim, *A. ulmi* Woods, *Bromius obscurus* (Linnaeus), *Epitrix hirtipennis* (Melsheimer), *Neogalerucella californiensis* (Linnaeus), *N. pusilla* (Duftschmid)
- Chamissoa* sp. (Amaranthaceae) *Disonycha glabrata* (Fabricius)
- Chard (see *Beta vulgaris* L.)
- Charlock (see *Sinapis arvensis* L.)
- Chayote (see *Sechium edule* (Jacq.) Sw.)
- Cheatgrass (see *Bromus*)
- Cheiranthus cheiri* L. (Brassicaceae) (see *Erysimum cheiri* (L.) Crantz)
- Chelone glabra* L. (Scrophulariaceae) *Dibolia chelones* Parry
- Chelone* sp. (Scrophulariaceae) *Dibolia borealis* Chevrolat
- Chenopodium album* L. (Chenopodiaceae) *Acalymma vittatum* (Fabricius), *Cassida azurea* Fabricius, *C. nebulosa* Linnaeus, *C. nobilis* Linnaeus, *Cerotoma trifurcata* (Forster), *Chaetocnema acuminata* White, *C. concinna* (Marsham), *C. denticulata* (Illiger), *Colaspis brunnea* (Fabricius), *Diabrotica barberi* Smith & Lawrence, *D. longicornis* (Say), *D. undecimpunctata* Mannerheim, *Disonycha collata* (Fabricius), *D. triangularis* (Say), *D. xanthomelas* (Dalman), *Epitrix cucumeris* (Harris), *E. tuberosa* Gentner, *Erynephala puncticollis* (Say), *Leptinotarsa decemlineata* (Say), *Monoxia angularis* (LeConte), *M. brisleyi* Blake, *M. consputa* (LeConte), *M. debilis* LeConte, *M. pallida* Blake, *M. sordida* (LeConte), *Phaedon cyanescens* Stål, *Phyllotreta albionica* (LeConte), *P. cruciferae* (Goeze), *P. striolata* (Fabricius), *Psylliodes convexior* LeConte, *P. punctulatus* Melsheimer, *Sumitrosis rosea* (Weber), *Systema blanda* Melsheimer, *S. frontalis* (Fabricius), *S. hudsonias* (Forster), *Zygogramma piceicollis* (Stål), *Z. signatipennis* (Stål), *Z. suturalis* (Fabricius)
- Chenopodium anthelminticum* L. (Chenopodiaceae) *Chaetocnema denticulata* (Illiger)
- Chenopodium bonus-henricus* L. (Chenopodiaceae) *Cassida nebulosa* Linnaeus
- Chenopodium botrys* L. (Chenopodiaceae) *Systema blanda* Melsheimer
- Chenopodium glaucum* L. (Chenopodiaceae) *Cassida nebulosa* Linnaeus
- Chenopodium hybridum* auct. non L. (Chenopodiaceae) (see *Chenopodium simplex* (Torr.) Raf.)
- Chenopodium leptophyllum* (Moq.) Nutt. ex S. Wats. (Chenopodiaceae) . *Erynephala maritima* (LeConte)
- Chenopodium murale* L. (Chenopodiaceae) *Phaedon cyanescens* Stål, *Psylliodes punctulatus* Melsheimer, *Zygogramma piceicollis* (Stål), *Z. signatipennis* (Stål)
- Chenopodium polyspermum* L. (Chenopodiaceae) *Cassida nebulosa* Linnaeus
- Chenopodium quinoa* Willd. (Chenopodiaceae) *Monoxia pallida* Blake, *Phyllotreta pusilla* Horn
- Chenopodium rubrum* L. (Chenopodiaceae) *Cassida nebulosa* Linnaeus
- Chenopodium simplex* (Torr.) Raf. (Chenopodiaceae) *Leptinotarsa decemlineata* (Say)
- Chenopodium urbicum* L. (Chenopodiaceae) *Cassida nebulosa* Linnaeus
- Chenopodium vulvaria* L. (Chenopodiaceae) *Cassida nebulosa* Linnaeus
- Chenopodium* sp. (Chenopodiaceae) *Aspidimorpha transparipennis* (Motschulsky), *Cassida rubiginosa* Müller, *Erynephala brighti* Blake, *Galerucella nymphaeae* (Linnaeus), *Glyptoscelis alternata* Crotch, *Longitarsus pratensis* (Panzer), *Monoxia elegans* Blake, *M. obesula* Blake, *M. schizonycha* Blake
- Cherry (see *Prunus*)
- Cherry-laurel (see *Prunus laurocerasus* L.)
- Chestnut (see *Castanea*)
- Chickweed (see *Cerastium*, *Stellaria*)
- Chili (see *Capsicum*)
- Chili pepper (see *Capsicum*)
- Chilopsis linearis* (Cav.) Sweet (Bignoniaceae) *Capraita durangoensis* (Jacoby), *C. flavida* (Horn), *Kuschelina jacobiana* (Horn), *Neobrotica pluristicta* Fall
- Chimonobambusa marmorea* Mokino (Poaceae) *Liliocercis lillii* (Scopoli)
- China-aster (see *Callistephus chinensis* (L.) Benth.)

Leaf Beetles Listed by Plants

- Chinaberry (see *Melia azedarach* L.)
- Chinese cabbage (see *Brassica rapa* L.)
- Chinese elm (see *Ulmus parvifolia* Jacq.)
- Chinese lantern (see *Physalis alkekengi* L.)
- Chinese turnip (see *Brassica juncea* (L.) Czern.)
- Chinquapin (see *Castanea*)
- Chionanthus virginicus* L. (Oleaceae) *Capraita sexmaculata* (Illiger), *Octotoma plicatula* (Fabricius), *Trichaltica scabricula* (Crotch)
- Chloracantha spinosa* (Benth.) Nesom (Asteraceae) *Disonycha caroliniana* (Fabricius), *D. fumata* (LeConte), *Systema gracilentata* Blake
- Chokeberry (see *Aronia*)
- Chokecherry (see *Prunus virginiana* L.)
- Chou mollier (see *Brassica oleracea* L.)
- Chromolaena odorata* (L.) R. M. King & H. Rob. (Asteraceae) . . . *Charidotella tuberculata* (Fabricius), *Epitrix cucumeris* (Harris), *Zenocolaspis subtropica* (Schaeffer)
- Chrysanthemum (see *Chrysanthemum* and similar genera)
- Chrysanthemum indicum* L. (Asteraceae) (see *Dendranthema indicum* (L.) Des Moul.)
- Chrysanthemum leucanthemum* L. (Asteraceae) (see *Leucanthemum vulgare* Lam.)
- Chrysanthemum maximum* Ramond (Asteraceae) (see *Leucanthemum maximum* (Ramond) DC.)
- Chrysanthemum vulgare* (L.) Bernh. (Asteraceae) (see *Tanacetum vulgare* L.)
- Chrysanthemum* sp. (Asteraceae) *Acalymma vittatum* (Fabricius), *Altica carduorum* Guérin-Ménéville, *Brachypnoea clypealis* (Horn), *Coleothorpa axillaris* (LeConte), *Diabrotica balteata* LeConte, *D. longicornis* (Say), *D. undecimpunctata* Mannerheim, *Diachus auratus* (Fabricius), *Donacia liebecki* Schaeffer, *Exema dispar* Lacordaire, *Systema blanda* Melsheimer, *S. frontalis* (Fabricius)
- Chrysobalanus icaco* L. (Chrysobalanaceae) *Cryptocephalus nigrocinctus* Suffrian
- Chrysobalanus oblongifolius* Michx. (Chrysobalanaceae) (see *Licania michauxii* Prance)
- Chrysopsis graminifolia* (Michx.) Nutt. (Asteraceae) (see *Pityopsis graminifolia* (Michx.) Nutt.)
- Chrysopsis villosa* (Pursh) Nutt. ex DC. (Asteraceae) (see *Heterotheca villosa* (Pursh) Shinnors)
- Chrysopsis* sp. (Asteraceae) *Cryptocephalus spurcus* LeConte
- Chrysothamnus nauseosus* (Pallas ex Pursh) Britt. (Asteraceae) . . . (see *Ericameria nauseosa* (Pall. ex Pursh) Nesom & Baird)
- Chrysothamnus viscidiflorus* (Hook.) Nutt. (Asteraceae) *Cryptocephalus confluentus* Say, *C. spurcus* LeConte, *C. umbonatus* Schaffer, *Disonycha latifrons* Schaeffer, *Pachybrachis mercurialis* Fall, *Trirhabda lewisii* Crotch, *T. nitidicollis* LeConte
- Chrysothamnus* sp. (Asteraceae) *Colaspidea smaragdula* (LeConte), *Coleothorpa mucorea* (LeConte), *Monoxia grisea* Blake, *M. minuta* Blake, *M. puberula* Blake, *M. schizonycha* Blake, *Systema laevis* Blake, *Trirhabda attenuata* (Say)
- Cichorium endivia* L. (Asteraceae) *Psylliodes chalcomerus* (Illiger)
- Cichorium intybus* L. (Asteraceae) *Altica bimarginata* Say, *Leptinotarsa decemlineata* (Say)
- Cicuta maculata* L. (Apiaceae) *Diabrotica cristata* (Harris), *D. undecimpunctata* Mannerheim
- Cicuta virosa* L. (Apiaceae) *Prasocuris phellandrii* (Linnaeus)
- Cienfuegosia affinis* (H. B. K.) Kochr. (Malvaceae) *Disonycha glabrata* (Fabricius)
- Cienfuegosia rosei* Fryxell (Malvaceae) *Syphrea flavicollis* (Jacoby)
- Cinquefoil (see *Potentilla*)
- Cirsium acaule* (L.) Scop. (Asteraceae) *Altica carduorum* Guérin-Ménéville, *Cassida rubiginosa* Müller, *Lema puncticollis* (Curtis), *Sphaeroderma testaceum* (Fabricius)
- Cirsium altissimum* (L.) Spreng. (Asteraceae) *Oulema palustris* (Blatchley)
- Cirsium arvense* (L.) Scop. (Asteraceae) *Agroiconota bivittata* (Say), *Altica carduorum* Guérin-Ménéville, *Cassida rubiginosa* Müller, *Crioceris duodecimpunctata* (Linnaeus), *Deloyala guttata* (Olivier), *Diabrotica cristata* (Harris), *D. longicornis* (Say), *Diachus auratus* (Fabricius), *Disonycha pensylvanica* (Illiger), *Epitrix cucumeris* (Harris), *E. fasciata* Blatchley, *Lema puncticollis* (Curtis), *Leptinotarsa decemlineata* (Say), *Longitarsus melanurus* (Melsheimer), *L. succineus* (Foudras), *Oulema collaris* (Say), *O. cornuta* (Fabricius), *O. palustris* (Blatchley), *Pachybrachis melanostictus* Suffrian, *Prasocuris vittata* (Olivier), *Psylliodes chalcomerus* (Illiger), *P. punctulatus* Melsheimer, *Sphaeroderma testaceum* (Fabricius), *Systema blanda* Melsheimer, *S. frontalis* (Fabricius), *S. hudsonias* (Forster), *Trirhabda convergens* LeConte

<i>Cirsium brevistylum</i> Cronq. (Asteraceae)	<i>Lema puncticollis</i> (Curtis)
<i>Cirsium californicum</i> A. Gray (Asteraceae)	(see <i>Cirsium occidentale</i> (Nutt.) Jeps.)
<i>Cirsium canescens</i> Nutt. (Asteraceae)	<i>Pseudoluperus longulus</i> (LeConte)
<i>Cirsium canum</i> (L.) All. (Asteraceae)	<i>Cassida rubiginosa</i> Müller
<i>Cirsium chrysacanthum</i> (Ball) Jahandiez (Asteraceae)	<i>Cassida rubiginosa</i> Müller
<i>Cirsium congdonii</i> Moore & Frankton (Asteraceae)	<i>Disonycha maritima</i> Mannerheim
<i>Cirsium discolor</i> (Muhl. ex Willd.) Spreng. (Asteraceae)	<i>Cassida rubiginosa</i> Müller, <i>Diabrotica longicornis</i> (Say), <i>Oulema palustris</i> (Blatchley)
<i>Cirsium drummondii</i> J. Torr. & A. Gray (Asteraceae)	<i>Lema puncticollis</i> (Curtis)
<i>Cirsium eriophorum</i> Scop. (Asteraceae)	<i>Cassida rubiginosa</i> Müller
<i>Cirsium erisithales</i> (Jacq.) Scop. (Asteraceae)	<i>Cassida rubiginosa</i> Müller
<i>Cirsium flodmanii</i> (Rydb.) Arthur (Asteraceae)	<i>Altica carduorum</i> Guérin-Ménéville, <i>Lema puncticollis</i> (Curtis), <i>Psylliodes chalconeris</i> (Illiger)
<i>Cirsium foliosum</i> (Hook.) DC. (Asteraceae)	<i>Lema puncticollis</i> (Curtis)
<i>Cirsium heterophyllum</i> (L.) J. Hill (Asteraceae)	<i>Cassida rubiginosa</i> Müller
<i>Cirsium horridulum</i> Michx. (Asteraceae)	<i>Chrysomela scripta</i> Fabricius, <i>Diabrotica balteata</i> LeConte, <i>D. undecimpunctata</i> Mannerheim, <i>Disonycha alternata</i> (Illiger), <i>D. glabrata</i> (Fabricius), <i>Myochrous denticollis</i> (Say), <i>Oulema brunnicollis</i> (Lacordaire), <i>O. sayi</i> (Crotch)
<i>Cirsium incanum</i> (Gmel.) Fisch. (Asteraceae)	(see <i>Cirsium arvense</i> (L.) Scop.)
<i>Cirsium lanceolatum</i> (L.) Scop., non Hill. (Asteraceae)	(see <i>Cirsium vulgare</i> (Savi) Tenn.)
<i>Cirsium mohavense</i> (Greene) Petrak (Asteraceae)	<i>Systema blanda</i> Melsheimer
<i>Cirsium monspessulanum</i> Hill (Asteraceae)	<i>Psylliodes chalconeris</i> (Illiger)
<i>Cirsium muticum</i> Michx. (Asteraceae)	<i>Cassida rubiginosa</i> Müller, <i>Diabrotica cristata</i> (Harris)
<i>Cirsium neomexicanum</i> A. Gray (Asteraceae)	<i>Systema blanda</i> Melsheimer
<i>Cirsium occidentale</i> (Nutt.) Jeps. (Asteraceae)	<i>Lema puncticollis</i> (Curtis), <i>Systema blanda</i> Melsheimer
<i>Cirsium oleraceum</i> (L.) Scop. (Asteraceae)	<i>Altica carduorum</i> Guérin-Ménéville, <i>Cassida rubiginosa</i> Müller, <i>Lema puncticollis</i> (Curtis), <i>Sphaeroderma testaceum</i> (Fabricius)
<i>Cirsium palustre</i> (L.) Scop. (Asteraceae)	<i>Altica carduorum</i> Guérin-Ménéville, <i>Cassida rubiginosa</i> Müller, <i>Lema puncticollis</i> (Curtis), <i>Psylliodes picinus</i> (Marsham), <i>Sphaeroderma testaceum</i> (Fabricius)
<i>Cirsium proteanum</i> J. T. Howell (Asteraceae)	(see <i>Cirsium occidentale</i> (Nutt.) Jeps.)
<i>Cirsium pumilum</i> (Nutt.) Spreng. (Asteraceae)	<i>Altica carduorum</i> Guérin-Ménéville, <i>Brachypnoea puncticollis</i> (Say), <i>Cassida rubiginosa</i> Müller, <i>Disonycha glabrata</i> (Fabricius), <i>Longitarsus testaceus</i> (Melsheimer)
<i>Cirsium quercetorum</i> (Gray) Jeps. (Asteraceae)	<i>Lema puncticollis</i> (Curtis)
<i>Cirsium rivulare</i> (Jacq.) All. (Asteraceae)	<i>Altica carduorum</i> Guérin-Ménéville, <i>Cassida rubiginosa</i> Müller, <i>Lema puncticollis</i> (Curtis), <i>Sphaeroderma testaceum</i> (Fabricius)
<i>Cirsium salisburgense</i> G. Don (Asteraceae)	<i>Cassida rubiginosa</i> Müller
<i>Cirsium texanum</i> Buckl. (Asteraceae)	<i>Brachypnoea tristis</i> (Olivier), <i>Oulema palustris</i> (Blatchley)
<i>Cirsium tuberosum</i> All. (Asteraceae)	<i>Cassida rubiginosa</i> Müller
<i>Cirsium ukrainicum</i> Besser (Asteraceae)	<i>Cassida rubiginosa</i> Müller
<i>Cirsium undulatum</i> (Nutt.) Spreng. (Asteraceae)	<i>Lema puncticollis</i> (Curtis), <i>Longitarsus testaceus</i> (Melsheimer), <i>Psylliodes chalconeris</i> (Illiger)
<i>Cirsium vulgare</i> (Savi) Tenn. (Asteraceae)	<i>Altica carduorum</i> Guérin-Ménéville, <i>Cassida rubiginosa</i> Müller, <i>Diabrotica cristata</i> (Harris), <i>D. longicornis</i> (Say), <i>Disonycha glabrata</i> (Fabricius), <i>Lema puncticollis</i> (Curtis), <i>Leptinotarsa decemlineata</i> (Say), <i>Longitarsus testaceus</i> (Melsheimer), <i>Oulema collaris</i> (Say), <i>Psylliodes chalconeris</i> (Illiger), <i>Sphaeroderma testaceum</i> (Fabricius), <i>Systema blanda</i> Melsheimer
<i>Cirsium</i> sp. (Asteraceae)	<i>Altica ambiens</i> LeConte, <i>Chaetocnema denticulata</i> (Illiger), <i>Chrysolina inornata</i> (Rogers), <i>Diabrotica barberi</i> Smith & Lawrence, <i>D. virgifera</i> LeConte, <i>Epiitrix fuscata</i> Crotch, <i>Graphops obscura</i> LeConte, <i>Kuschelina fimbriata</i> (Forster), <i>Lilioceris lili</i> (Scopoli), <i>Myochrous pauxillus</i> Schaeffer, <i>Neolema ephippium</i> (Lacordaire), <i>Rhabdopterus blatchleyi</i> Bowditch, <i>Trirhabda adela</i> Blake
<i>Cissus incisa</i> auct. non Des Moulins (Vitaceae)	(see <i>Cissus trifoliata</i> (L.) L.)
<i>Cissus trifoliata</i> (L.) L. (Vitaceae)	<i>Fidia clematis</i> Schaeffer
Citron	(see <i>Citrullus lanatus</i> (Thunb.) Matsum. & Nakai, <i>Citrus medica</i> L.)

Leaf Beetles Listed by Plants

- Citrullus colocynthis* (L.) Schrad. (Cucurbitaceae) *Diabrotica balteata* LeConte, *D. undecimpunctata* Mannerheim
- Citrullus lanatus* (Thunb.) Matsum. & Nakai (Cucurbitaceae) *Acalymma trivittatum* (Melsheimer), *A. vittatum* (Fabricius), *Cerotoma atrofasciata* Jacoby, *C. trifurcata* (Forster), *Chaetocnema denticulata* (Illiger), *Chelymorpha cassidea* (Fabricius), *Colaspis brunnea* (Fabricius), *C. floridana* Schaeffer, *C. hesperia* Blake, *Diabrotica balteata* LeConte, *D. longicornis* (Say), *D. undecimpunctata* Mannerheim, *D. virgifera* LeConte, *Disomycha fumata* (LeConte), *D. glabrata* (Fabricius), *Epitrix cucumeris* (Harris), *E. subcrinita* (LeConte), *E. tuberosa* Gentner, *Leptinotarsa decemlineata* (Say), *Microrhopala vittata* (Fabricius), *Omophoita cyanipennis* (Fabricius), *Oulema melanopus* (Linnaeus), *Paranapiacaba tricineta* (Say), *Phyllotreta cruciferae* (Goeze), *P. striolata* (Fabricius), *Psylliodes punctulatus* Melsheimer, *Systena blanda* Melsheimer
- Citrullus vulgaris* Schrad. ex Eckl. & Zeyh. (Cucurbitaceae) (see *Citrullus lanatus* (Thunb.) Matsum. & Nakai)
- Citrus (see *Citrus*)
- Citrus aurantifolia* (Christm.) Swingle (Rutaceae) *Diabrotica balteata* LeConte
- Citrus aurantium* L. (Rutaceae) *Baliosus nervosus* (Panzer), *Derospidea brevicollis* (LeConte), *Diabrotica balteata* LeConte, *Disomycha glabrata* (Fabricius), *Typophorus nigratus* (Fabricius)
- Citrus limon* (L.) Burm. f. (Rutaceae) *Diabrotica undecimpunctata* Mannerheim
- Citrus limonia* Osbeck (Rutaceae) *Cryptocephalus trizonatus* Suffrian, *Diabrotica undecimpunctata* Mannerheim, *Omophoita cyanipennis* (Fabricius)
- Citrus medica* L. (Rutaceae) *Diabrotica undecimpunctata* Mannerheim
- Citrus paradisi* Macfad. (Rutaceae) *Cryptocephalus nigrocinctus* Suffrian, *Epitrix cucumeris* (Harris), *Monocesta coryli* (Say)
- Citrus reticulata* Blanco (Rutaceae) *Acalymma vittatum* (Fabricius), *Anomoea laticlavata* (Forster), *Diabrotica undecimpunctata* Mannerheim
- Citrus sinensis* (L.) Osbeck (Rutaceae) *Altica litigata* Fall, *Baliosus nervosus* (Panzer), *Charidotella sexpunctata* (Fabricius), *Cryptocephalus marginicollis* Suffrian, *C. nigrocinctus* Suffrian, *Derospidea brevicollis* (LeConte), *Diabrotica balteata* LeConte, *Lema trivittata* Say, *Longitarsus varicornis* Suffrian, *Metachroma adustum* Suffrian, *Monocesta coryli* (Say), *Oulema sayi* (Crotch)
- Citrus* sp. (Rutaceae) *Altica chalybea* Illiger, *Anomoea rufifrons* (Lacordaire), *Cryptocephalus cribripennis* LeConte, *Deloyala guttata* (Olivier), *Epitrix fasciata* Blatchley, *Glyptoscelis squamulata* Crotch, *Physonota calochroma* (Blake)
- Cladium* sp. (Cyperaceae) *Metachroma ustum* LeConte
- Cladrastis lutea* (Michx.) K. Koch. (Fabaceae) *Odontota dorsalis* (Thunberg)
- Clarkia cylindrica* (Jepson) Harlen Lewis & M. Lewis (Onagraceae) *Androlyperus fulvus* Crotch
- Clematis drummondii* J. Torr. & A. Gray (Ranunculaceae) *Pentispa melamora* (Chapuis)
- Clematis ligusticifolia* Nutt. (Ranunculaceae) *Coleothorpa axillaris* (LeConte)
- Clematis vitalba* L. (Ranunculaceae) *Longitarsus luridus* (Scopoli)
- Cleome hassleriana* Chod. (Capparaceae) *Phyllotreta cruciferae* (Goeze), *P. striolata* (Fabricius)
- Cleome integrifolia* Torr. & Gray (Capparaceae) *Phyllotreta albionica* (LeConte), *P. constricta* Smith, *P. lewisii* (Crotch), *P. oregonensis* (Crotch), *P. pusilla* Horn
- Cleome jonesii* (J. F. Macbr.) Tidestrom (Capparaceae) (see *Cleome lutea* Hook.)
- Cleome lutea* Hook. (Capparaceae) *Phyllotreta albionica* (LeConte), *P. cruciferae* (Goeze), *P. pusilla* Horn
- Cleome pungens* auct. non Willd. (Capparaceae) (see *Cleome hassleriana* Chod.)
- Cleome serrulata* Pursh (Capparaceae) (see *Cleome integrifolia* Torr. & Gray)
- Cleome spinosa* Jacq. (Capparaceae) *Epitrix fasciata* Blatchley
- Cleome* sp. (Capparaceae) *Phyllotreta aeneicollis* (Crotch), *Zyogramma exclamationis* (Fabricius)
- Clerodendrum aculeatum* (L.) Schlecht. (Verbenaceae) *Omophoita cyanipennis* (Fabricius)
- Clerodendrum speciosissimum* Van Geert ex C. Morr. (Verbenaceae) *Omophoita cyanipennis* (Fabricius)
- Clerodendrum thomsoniae* Balf. (Verbenaceae) *Uroplata girardi* Pic
- Clerodendrum* sp. (Verbenaceae) *Octotoma scabripennis* Guérin-Méneville
- Clethra alnifolia* L. (Clethraceae) *Colaspis costipennis* Crotch
- Clethra* sp. (Clethraceae) *Bassareus brunnipes* (Olivier), *B. clathratus* (Melsheimer)
- Cliftonia monophylla* (Lam.) N. L. Britt. ex Sarg. (Cyrillaceae) *Triachus cerinus* LeConte

<i>Clinopodium vulgare</i> L. (Lamiaceae)	<i>Longitarsus luridus</i> (Scopoli)
<i>Clitoria mariana</i> L. (Fabaceae)	<i>Oulema texana</i> (Crotch)
Clover	(see <i>Trifolium</i>)
<i>Cnicus benedictus</i> L. (Asteraceae)	<i>Altica carduorum</i> Guérin-Ménéville, <i>Cas-</i>
<i>sida rubiginosa</i> Müller	
<i>Cnicus lanceolatus</i> (L.) Willd. (Asteraceae)	(see <i>Cirsium vulgare</i> (Savi) Tenn.)
<i>Cnicus spinosissimus</i> L. (Asteraceae)	<i>Metachroma floridanum</i> Crotch, <i>Psylliodes</i>
<i>chalcomerus</i> (Illiger)	
<i>Cnicus virginianus</i> Hook. (Asteraceae)	(see <i>Carduus lecontei</i> Pollard)
<i>Cnicus virginianus</i> Pursh (Asteraceae)	<i>Diabrotica longicornis</i> (Say)
<i>Cnicus</i> sp. (Asteraceae)	<i>Entomoscelis americana</i> Brown, <i>Epitrix</i>
<i>cucumeris</i> (Harris), <i>E. fasciata</i> Blatchley, <i>E. fuscula</i> Crotch	
Coastal-plain willow	(see <i>Salix caroliniana</i> Michx.)
<i>Coccoloba uvifera</i> (L.) L. (Polygonaceae)	<i>Cryptocephalus nigrocinctus</i> Suffrian
<i>Coccothrinax</i> sp. (Arecaceae)	<i>Hemisphaerota cyanea</i> (Say)
<i>Cochlearia officinalis</i> L. (Brassicaceae)	<i>Phaedon armoraciae</i> (Linnaeus)
<i>Cochlearia</i> sp. (Brassicaceae)	<i>Phyllotreta cruciferae</i> (Goeze)
Cocklebur	(see <i>Xanthium</i>)
Cocksfoot	(see <i>Dactylis glomerata</i> L.)
Coconut	(see <i>Cocos nucifera</i> L.)
<i>Cocos nucifera</i> L. (Arecaceae)	<i>Brontispa chalybeipennis</i> (Zacher), <i>Hemi-</i>
<i>sphaerota cyanea</i> (Say)	
<i>Codiaeum variegatum</i> (L.) A. Juss. (Euphorbiaceae)	<i>Aphthona abdominalis</i> (Duftschmid),
<i>Omophoita cyanipennis</i> (Fabricius)	
<i>Codiaeum</i> sp. (Euphorbiaceae)	<i>Asphaera abdominalis</i> (Chevrolat)
<i>Coffea arabica</i> L. (Rubiaceae)	<i>Charidotella emarginata</i> (Boheman),
<i>Cryptocephalus albicans</i> Haldeman, <i>C. trizonatus</i> Suffrian, <i>Diabrotica balteata</i> LeConte, <i>D. undecim-</i>	
<i>punctata</i> Mannerheim	
<i>Coffea</i> sp. (Rubiaceae)	<i>Asphaera abdominalis</i> (Chevrolat), <i>Cal-</i>
<i>ligrapha fulvipes</i> Stål, <i>Cerotoma ruficornis</i> (Olivier), <i>Charidotella sexpunctata</i> (Fabricius), <i>C. succinea</i>	
(Boheman), <i>Deloyala guttata</i> (Olivier), <i>Physonota alutacea</i> Boheman, <i>Plagiometriona clavata</i> (Fabri-	
cious), <i>Trirhabda bacharidis</i> (Weber), <i>Typophorus nigratus</i> (Fabricius), <i>Zygogramma signatipennis</i> (Stål)	
Coffee	(see <i>Coffea arabica</i> L.)
<i>Coix lacryma-jobi</i> L. (Poaceae)	<i>Chaetocnema pulicaria</i> Melsheimer, <i>Di-</i>
<i>abrotica virgifera</i> LeConte	
<i>Coldenia plicata</i> (Torr.) Cov. (Boraginaceae)	(see <i>Tiquilia plicata</i> (Torr.) A. Richards)
Cole	(see <i>Brassica</i>)
<i>Coleus</i> sp. (Lamiaceae)	<i>Systema hudsonias</i> (Forster)
Collard	(see <i>Brassica oleracea</i> L.)
<i>Collinsonia canadensis</i> L. (Lamiaceae)	<i>Diabrotica undecimpunctata</i> Mannerheim
<i>Colocasia</i> sp. (Araceae)	<i>Plateumaris nitida</i> (Germar)
Colorado blue spruce	(see <i>Picea pungens</i> Engelm.)
<i>Comandra umbellata</i> Nutt. (Santalaceae)	<i>Spintherophyta globosa</i> (Olivier)
<i>Comarum palustre</i> L. (Rosaceae)	<i>Galerucella nymphaeae</i> (Linnaeus)
<i>Commelina communis</i> L. (Commelinaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Neolema jaco-</i>
<i>bina</i> (Linell), <i>N. ovalis</i> White, <i>N. quadriguttata</i> White, <i>N. sexpunctata</i> (Olivier), <i>Oulema collaris</i> (Say),	
<i>O. cornuta</i> (Fabricius), <i>O. sayi</i> (Crotch), <i>O. simulans</i> (Schaeffer), <i>Rhabdopterus picipes</i> (Olivier)	
<i>Commelina crispa</i> Woot. (Commelinaceae)	(see <i>Commelina erecta</i> L.)
<i>Commelina dianthifolia</i> Delile (Commelinaceae)	<i>Neolema ovalis</i> White
<i>Commelina diffusa</i> Burm. f. (Commelinaceae)	<i>Neolema cordata</i> White, <i>N. ovalis</i> White,
<i>N. sexpunctata</i> (Olivier), <i>Oulema sayi</i> (Crotch), <i>O. simulans</i> (Schaeffer)	
<i>Commelina elegans</i> H. B. K. (Commelinaceae)	(see <i>Commelina erecta</i> L.)
<i>Commelina erecta</i> L. (Commelinaceae)	<i>Neolema cordata</i> White, <i>N. dorsalis</i>
(Olivier), <i>N. jacobina</i> (Linell), <i>N. ovalis</i> White, <i>N. quadriguttata</i> White, <i>N. sexpunctata</i> (Olivier), <i>Oulema</i>	
<i>arizonae</i> (Schaeffer), <i>O. cornuta</i> (Fabricius), <i>O. elongata</i> White, <i>O. sayi</i> (Crotch), <i>O. simulans</i> (Schaeffer),	
<i>O. variabilis</i> White, <i>Paratriarius dorsatus</i> (Say)	
<i>Commelina virginica</i> L. (Commelinaceae)	(see <i>Commelina erecta</i> L.)
<i>Commelina</i> sp. (Commelinaceae)	<i>Calligrapha bidenticola</i> Brown, <i>Diabrotica</i>
<i>virgifera</i> LeConte, <i>Metaxyonycha godmani</i> Jacoby, <i>Ophraella communis</i> LeSage	

Leaf Beetles Listed by Plants

- Common cinquefoil (see *Potentilla canadensis* L., *P. simplex* Michx.)
- Common everlasting see *Gnaphalium*, *Helichrysum*)
- Common milkweed (see *Asclepias syriaca* L.)
- Comptonia asplenifolia* (L.) L'Her. ex Aiton (Myricaceae) (see *Comptonia peregrina* (L.) Coult.)
- Comptonia peregrina* (L.) Coult. (Myricaceae) *Colaspis costipennis* Crotch, *Cryptocephalus insertus* Haldeman, *C. quadruplex* Newman, *Neochlamisus comptoniae* (Brown), *N. gibbosus* (Fabricius), *Pachybrachis othonus* (Say), *Paria frosti* Wilcox, *P. quadrinotata* (Say), *Spintherophyta globosa* (Olivier), *Triachus atomus* (Suffrian)
- Comptonia* sp. (Myricaceae) *Dibolia melampyri* Parry
- Concord grape (see *Vitis labrusca* L.)
- Condalia hookeri* M. C. Johnston (Rhamnaceae) *Disonycha barberi* Blake, *Miraces aeneipennis* Jacoby
- Condalia lycioides* (Gray) Weberb. (Rhamnaceae) (see *Ziziphus obtusifolia* A. Gray)
- Condalia obovata* Hook. (Rhamnaceae) (see *Condalia hookeri* M. C. Johnston)
- Condalia spathulata* A. Gray (Rhamnaceae) *Keithatus blakeae* (White), *Xanthonia pilosa* Staines & Weisman
- Condalia* sp. (Rhamnaceae) *Triarius vittipennis* (Horn)
- Conocarpus erectus* L. (Combretaceae) *Bassareus lituratus* (Fabricius), *Chaetocnema brunescens* Horn, *Cryptocephalus nigrocinctus* Suffrian, *Griburius larvatus* Newman, *Metachroma adustum* Suffrian, *M. clarkei* Blake, *M. zayasi* Blake
- Conringia orientalis* (L.) Dumort. (Brassicaceae) *Entomoscelis americana* Brown
- Convallaria majalis* L. (Liliaceae) *Liliocercis lilii* (Scopoli)
- Convallaria* sp. (Liliaceae) *Oulema melanopus* (Linnaeus)
- Convolvulus althaeoides* L. (Convolvulaceae) *Longitarsus succineus* (Foudras)
- Convolvulus americanus* (Sims) Greene (Convolvulaceae) (see *Calystegia sepium* (L.) R. Br.)
- Convolvulus arvensis* L. (Convolvulaceae) *Agroiconota bivittata* (Say), *Aspidimorpha transparipennis* (Motschulsky), *Cassida nobilis* Linnaeus, *C. rubiginosa* Müller, *Chaetocnema confinis* Crotch, *Charidotella purpurata* (Boheman), *C. sexpunctata* (Fabricius), *C. tuberculata* (Fabricius), *Chelymorpha cassidea* (Fabricius), *Deloyala guttata* (Olivier), *Gastrophysa polygoni* (Linnaeus), *Jonthonota nigripes* (Olivier), *Longitarsus pellucidus* (Foudras), *L. rubiginosus* (Foudras), *L. succineus* (Foudras), *Oulema melanopus* (Linnaeus), *Pachybrachis peccans* Suffrian, *Sphaeroderma testaceum* (Fabricius), *Typophorus nigratus* (Fabricius)
- Convolvulus cyclostegius* House (Convolvulaceae) (see *Calystegia macrostegia* (E. Greene) Brummitt)
- Convolvulus equitans* Benth. (Convolvulaceae) *Agroiconota bivittata* (Say), *Deloyala lecontei* (Crotch), *Jonthonota mexicana* (Champion), *J. nigripes* (Olivier)
- Convolvulus incanus* auct. non Vahl. (Convolvulaceae) (see *Convolvulus arvensis* L.)
- Convolvulus lineatus* L. (Convolvulaceae) *Longitarsus pellucidus* (Foudras)
- Convolvulus repens* L. (Convolvulaceae) (see *Calystegia sepium* (L.) R. Br.)
- Convolvulus stachydidifolius* Choisy (Convolvulaceae) *Longitarsus pellucidus* (Foudras)
- Convolvulus tenuissimus* Sibth. & Sm. (Convolvulaceae) *Longitarsus pellucidus* (Foudras)
- Convolvulus tricolor* L. (Convolvulaceae) *Longitarsus rubiginosus* (Foudras)
- Convolvulus* sp. (Convolvulaceae) *Altica litigata* Fall, *Calligrapha praecelsis* (Rogers), *Cassida nebulosa* Linnaeus, *Chaetocnema dispar* Horn, *C. pulicaria* Melsheimer, *Charidotella ormondensis* (Blatchley), *Colaspidea smaragdula* (LeConte), *Diabrotica undecimpunctata* Mannerheim, *Epitrix hirtipennis* (Melsheimer), *Graphops tenuis* Blake, *Lema daturaphila* Kogan & Goeden, *Leptinotarsa decemlineata* (Say), *Opacincta bisignata* (Boheman), *Oulema palustris* (Blatchley), *Paria quadrinotata* (Say), *Plagiometriona clavata* (Fabricius), *Psylliodes punctulatus* Melsheimer, *Scelolyperus torquatus* (LeConte), *Strongylocassis atripes* (LeConte), *Systema bitaeniata* (LeConte)
- Conyza apurensis* Kunth (Asteraceae) *Epitrix cucumeris* (Harris)
- Conyza canadensis* (L.) Cronq. (Asteraceae) *Disonycha glabrata* (Fabricius), *Epitrix fasciata* Blatchley, *Paria sexnotata* (Say), *Systema blanda* Melsheimer, *S. hudsonias* (Forster)
- Cordia abyssinica* R. Br. (Boraginaceae) *Physonota alutacea* Boheman
- Cordia angustifolia* (West ex Willd.) Roem. & Schult. (Boraginaceae) *Erynephala maritima* (LeConte)
- Cordia boissieri* A. DC. (Boraginaceae) *Physonota alutacea* Boheman
- Cordia borinquensis* Urban (Boraginaceae) *Cryptocephalus nigrocinctus* Suffrian
- Cordia colococca* L. (Boraginaceae) *Physonota alutacea* Boheman
- Cordia curassavica* (Jacq.) Roem. & Schult. (Boraginaceae) *Physonota alutacea* Boheman

<i>Cordia dentata</i> Poir. (Boraginaceae)	<i>Physonota alutacea</i> Boheman
<i>Cordia ferruginea</i> Kunth in H. B. K. (Boraginaceae)	<i>Typophorus nigrinus</i> (Fabricius)
<i>Cordia inermis</i> (Mill.) I. M. Johnst. (Boraginaceae)	<i>Physonota alutacea</i> Boheman
<i>Cordia macrostachya</i> (Jacq.) Roem. & Schult. (Boraginaceae)	<i>Physonota alutacea</i> Boheman
<i>Cordia myxa</i> L. (Boraginaceae)	<i>Physonota alutacea</i> Boheman
<i>Cordia sebestena</i> L. (Boraginaceae)	<i>Physonota alutacea</i> Boheman, <i>P. calochroma</i> (Blake)
<i>Cordia seleriana</i> Fernald (Boraginaceae)	<i>Physonota alutacea</i> Boheman
<i>Cordia spinescens</i> L. (Boraginaceae)	<i>Physonota alutacea</i> Boheman
<i>Cordia stenophylla</i> Alain (Boraginaceae)	(see <i>Cordia angustifolia</i> (West ex Willd.) Roem. & Schult.)
Coreopsis	(see <i>Coreopsis</i>)
<i>Coreopsis aristosa</i> Michx. (Asteraceae)	<i>Calligrapha bidenticola</i> Brown, <i>Diabrotica undecimpunctata</i> Mannerheim
<i>Coreopsis cardaminefolia</i> (DC.) Torr. & Gray (Asteraceae)	(see <i>Coreopsis tinctoria</i> Nutt.)
<i>Coreopsis grandiflora</i> Hogg ex Sweet (Asteraceae)	<i>Diabrotica cristata</i> (Harris), <i>Phaedon desotonis</i> Balsbaugh
<i>Coreopsis lanceolata</i> L. (Asteraceae)	<i>Calligrapha bidenticola</i> Brown, <i>C. californica</i> Linell
<i>Coreopsis palmata</i> Nutt. (Asteraceae)	<i>Diabrotica cristata</i> (Harris)
<i>Coreopsis tinctoria</i> Nutt. (Asteraceae)	<i>Calligrapha californica</i> Linell, <i>Ophraella communis</i> LeSage
<i>Coreopsis tripteris</i> L. (Asteraceae)	<i>Diabrotica undecimpunctata</i> Mannerheim
<i>Coreopsis</i> sp. (Asteraceae)	<i>Cerotoma trifurcata</i> (Forster), <i>Diachus auratus</i> (Fabricius)
<i>Coriandrum sativum</i> L. (Apiaceae)	<i>Zygogramma piceicollis</i> (Stål), <i>Z. signatipennis</i> (Stål)
Cork elm	(see <i>Ulmus alata</i> Michx., <i>U. minor</i> Mill., <i>U. thomasi</i> Sarg.)
Corn	(see <i>Zea mays</i> L.)
Cornel	(see <i>Cornus</i>)
<i>Cornus alternifolia</i> L. f. (Cornaceae)	<i>Acalymma vittatum</i> (Fabricius), <i>Brachypnoea puncticollis</i> (Say), <i>Calligrapha rowena</i> Knab, <i>C. scalaris</i> (LeConte), <i>Diachus auratus</i> (Fabricius), <i>Odontota scapularis</i> (Olivier), <i>Orsodacne atra</i> (Ahrens)
<i>Cornus amomum</i> Mill. (Cornaceae)	<i>Calligrapha philadelphica</i> (Linnaeus), <i>C. rowena</i> Knab, <i>Paria fragariae</i> Wilcox, <i>P. scutellaris</i> (Notman)
<i>Cornus canadensis</i> L. (Cornaceae)	<i>Altica corni</i> Woods, <i>A. ulmi</i> Woods
<i>Cornus drummondii</i> C. A. Meyer (Cornaceae)	<i>Anomoea flavokansiensis</i> Moldenke, <i>A. laticlavata</i> (Forster), <i>Calligrapha philadelphica</i> (Linnaeus), <i>C. vicina</i> Schaeffer
<i>Cornus florida</i> L. (Cornaceae)	<i>Capraita circumdata</i> (Randall), <i>Derocephis erythropus</i> (Melsheimer), <i>Orsodacne atra</i> (Ahrens), <i>Pachybrachis obsoletus</i> Suffrian, <i>Systema corni</i> Schaeffer, <i>Tymnes tricolor</i> (Fabricius)
<i>Cornus obliqua</i> Raf. (Cornaceae)	(see <i>Cornus amomum</i> Mill.)
<i>Cornus paniculata</i> L'Her. (Cornaceae)	(see <i>Cornus racemosa</i> Lam.)
<i>Cornus pubescens</i> Nutt. (Cornaceae)	<i>Altica corni</i> Woods
<i>Cornus racemosa</i> Lam. (Cornaceae)	<i>Altica corni</i> Woods, <i>A. ulmi</i> Woods, <i>Brachypnoea puncticollis</i> (Say), <i>Paria scutellaris</i> (Notman)
<i>Cornus rugosa</i> Lam. (Cornaceae)	<i>Calligrapha rowena</i> Knab
<i>Cornus sericea</i> L. (Cornaceae)	<i>Altica corni</i> Woods, <i>Brachypnoea puncticollis</i> (Say), <i>Calligrapha knabi</i> Brown, <i>C. philadelphica</i> (Linnaeus), <i>C. rowena</i> Knab, <i>C. vicina</i> Schaeffer, <i>Diabrotica undecimpunctata</i> Mannerheim, <i>Leptinotarsa decemlineata</i> (Say), <i>Paria scutellaris</i> (Notman), <i>Plateumaris nitida</i> (Germar), <i>Rhabdopterus praetextus</i> (Say), <i>Xanthogaleruca luteola</i> (Müller)
<i>Cornus stolonifera</i> Michx. (Cornaceae)	(see <i>Cornus sericea</i> L.)
<i>Cornus</i> sp. (Cornaceae)	<i>Altica ambiens</i> LeConte, <i>A. bimarginata</i> Say, <i>Baliosus nervosus</i> (Panzer), <i>Bromius obscurus</i> (Linnaeus), <i>Calligrapha bidenticola</i> Brown, <i>C. floridana</i> Schaeffer, <i>C. multipunctata</i> (Say), <i>Capraita obsidiana</i> (Fabricius), <i>Chaetocnema confinis</i> Crotch, <i>Cryptocephalus quadruplex</i> Newman, <i>Exema canadensis</i> Pierce, <i>Labidomera clivicollis</i> (Kirby), <i>Lupraea picta</i> (Say), <i>Metachroma angustulum</i> Crotch, <i>Monocesta coryli</i> (Say), <i>Neogalerucella quebecensis</i> (Brown), <i>Odontota dorsalis</i> (Thunberg), <i>Orthaltica copalina</i> (Fabricius), <i>Pachybrachis spumarius</i> Suf-

Leaf Beetles Listed by Plants

- frian, *Phaedon viridis* Melsheimer, *Plateumaris pusilla* (Say), *Rhabdopterus picipes* (Olivier), *Sumitrosis rosea* (Weber), *Syneta albida* LeConte, *Systema blanda* Melsheimer, *Tricholochmaea decora* (Say)
- Coronilla varia* L. (Fabaceae) *Cerotoma trifurcata* (Forster), *Disonycha punctigera* (LeConte)
- Coronilla* sp. (Fabaceae) *Diabrotica tibialis* Jacoby, *D. undecimpunctata* Mannerheim, *Microtheca ochroloma* Stål, *Phyllotreta cruciferae* (Goeze), *Psylliodes chrysocephalus* (Linnaeus), *P. napi* (Fabricius)
- Coronopus didymus* (L.) Sm. (Brassicaceae) *Phyllotreta aeneicollis* (Crotch), *P. undulata* (Kutschera)
- Corylus americana* Walt. (Betulaceae) *Babia quadriguttata* (Olivier), *Brachypnoea tristis* (Olivier), *Calligrapha rhoda* Knab, *C. scalaris* (LeConte), *Cryptocephalus quadruplex* Newman, *Disonycha uniguttata* (Say), *Monocesta coryli* (Say), *Neochlamisus bebbianae* (Brown), *N. bimaculatus* Karren, *N. chamaedaphnes* (Brown), *N. comptoniae* (Brown), *N. eubati* (Brown), *N. platani* (Brown), *Orsodacne atra* (Ahrens), *Pachybrachis pectoralis* (Melsheimer), *Paria quadrinotata* (Say), *Tymnes violaceus* Horn
- Corylus avellana* L. (Betulaceae) *Agelastica alni* (Linnaeus), *Baliosus nervosus* (Panzer), *Neochlamisus bebbianae* (Brown), *Psylliodes picinus* (Marshall)
- Corylus cornuta* Marsh. (Betulaceae) *Altica ulmi* Woods, *Bromius obscurus* (Linnaeus), *Neochlamisus bebbianae* (Brown), *Syneta ferruginea* (Germar), *Tricholochmaea decora* (Say)
- Corylus rostrata* Ait. (Betulaceae) (see *Corylus cornuta* Marsh.)
- Corylus* sp. (Betulaceae) *Bassareus mammifer* (Newman), *Calligrapha multiguttata* Stål, *Chrysomela interrupta* Fabricius, *Cryptocephalus incertus* Olivier, *C. mutabilis* Melsheimer, *C. trivittatus* Olivier, *Derocrepis erythropus* (Melsheimer), *Epitrix fuscula* Crotch, *Exema canadensis* Pierce, *Metachroma quercatum* (Fabricius), *Neochlamisus gibbosus* (Fabricius), *Odonotota scapularis* (Olivier), *Pachybrachis praeclarus* (Weise), *Paria canella* (Fabricius), *Spintherophyta globosa* (Olivier), *Syneta albida* LeConte, *S. hamata* Horn, *Tymnes metasternalis* (Crotch), *T. tricolor* (Fabricius), *Xanthonia villosula* (Melsheimer)
- Cos (see *Lactuca sativa* L.)
- Cosmos (see *Cosmos*)
- Cosmos bipinnatus* Cav. (Asteraceae) *Phaedon cyanescens* Stål, *Zygogramma piceicollis* (Stål), *Z. signatipennis* (Stål)
- Cosmos* sp. (Asteraceae) *Diabrotica undecimpunctata* Mannerheim
- Cotinus coggygria* Scop. (Anacardiaceae) *Blepharida rhois* (Forster)
- Cotinus obovatus* Raf. (Anacardiaceae) *Blepharida rhois* (Forster), *Cryptocephalus notatus* Fabricius, *Scelolyperus liriophilus* Wilcox
- Cotton (see *Gossypium*)
- Cottonwood (see *Populus*)
- Couchgrass (see *Elymus repens* (L.) Gould)
- Cowania mexicana* D. Don (Rosaceae) (see *Purshia mexicana* (D. Don) Henrickson)
- Cowania stansburiana* Torr. (Rosaceae) (see *Purshia stansburiana* (Torr.) Henrickson)
- Cowpea (see *Vigna unguiculata* Clav.)
- Crabapple (see *Malus*)
- Crabgrass (see *Digitaria*)
- Crabtree (see *Malus*)
- Crambe abyssinica* Hochst. ex RE Fr. (Brassicaceae) *Phyllotreta cruciferae* (Goeze)
- Crambe maritima* L. (Brassicaceae) *Psylliodes napi* (Fabricius)
- Cranberry (see *Vaccinium*)
- Crapemyrtle (see *Lagerstroemia indica* L.)
- Crape myrtle (see *Lagerstroemia indica* L.)
- Crataegus calpodendron* (Ehrh.) Medik. (Rosaceae) *Odontota dorsalis* (Thunberg)
- Crataegus coccinea* auct. non L. (Rosaceae) (see *Crataegus intricata* Lange)
- Crataegus collina* Chapm. (Rosaceae) (see *Crataegus punctata* Jacq.)
- Crataegus columbiana* T. J. Howell (Rosaceae) (see *Crataegus douglasii* Lind.)
- Crataegus crus-galli* L. (Rosaceae) *Monocesta coryli* (Say)
- Crataegus douglasii* Lind. (Rosaceae) *Calligrapha multipunctata* (Say)
- Crataegus intricata* Lange (Rosaceae) *Acalymma vittatum* (Fabricius), *Odontota dorsalis* (Thunberg)

- Crataegus leptophylla* Sarg. (Rosaceae) (see *Crataegus crus-galli* L.)
- Crataegus mollis* (Torr. & A. Gray) Scheele (Rosaceae) *Acalymma vittatum* (Fabricius)
- Crataegus monogyna* Jacq. (Rosaceae) *Diabrotica balteata* LeConte
- Crataegus punctata* Jacq. (Rosaceae) *Epitrix cucumeris* (Harris), *Monocesta coryli* (Say), *Xanthonia villosula* (Melsheimer)
- Crataegus succincta* Sarg. (Rosaceae) (see *Crataegus punctata* Jacq.)
- Crataegus tomentosa* L. (Rosaceae) (see *Crataegus calpodendron* (Ehrh.) Medik.)
- Crataegus* sp. (Rosaceae) *Altica carinata* Germar, *A. foliaceae* LeConte, *Anomoea laticlavata* (Forster), *Calligrapha confluens* Schaeffer, *C. dolosa* Brown, *Capraita quercata* (Fabricius), *Chaetocnema elongatula* Crotch, *Coleothorpa dominicana* (Fabricius), *Crepidodera nana* (Say), *C. populivora* Parry, *C. violacea* Melsheimer, *Deloyala guttata* (Olivier), *Dibolia borealis* Chevrolat, *Exema gibber* (Fabricius), *Orsodacne atra* (Ahrens), *Pachybrachis subfasciatus* LeConte, *Paria quadrinotata* (Say), *Physonota unipunctata* (Say), *Sumitrosis rosea* (Weber), *Syneta albida* LeConte, *Systema marginalis* (Illiger), *Triachus postremus* LeConte, *Tymnes metasternalis* (Crotch)
- Creeping jenny% (see *Lysimachia nummularia* L.)
- Crepe myrtle (see *Lagerstroemia indica* L.)
- Crepemyrtle (see *Lagerstroemia indica* L.)
- Crepis acuminata* Nutt. (Asteraceae) *Pseudoluperus longulus* (LeConte), *Sceoluperus nigrocyaneus* (LeConte)
- Cress (see *Arabidopsis*, *Arabis*, *Barbarea*, *Cardamine*, *Cardaria*, *Lepidium*, *Rorippa*)
- Crimson clover (see *Trifolium incarnatum* L.)
- Crocus (see *Crocus*)
- Crocus* sp. (Iridaceae) *Coleothorpa mucorea* (LeConte), *Diabrotica undecimpunctata* Mannerheim, *Lilioceris lili* (Scopoli)
- Crotalaria (see *Crotalaria*)
- Crotalaria incana* L. (Fabaceae) *Colaspis brunnea* (Fabricius)
- Crotalaria mucronata* Desv. (Fabaceae) (see *Crotalaria pallida* Aiton)
- Crotalaria pallida* Aiton (Fabaceae) *Disonycha figurata* Jacoby, *Glyptoscelis albicans* Baly
- Crotalaria spectabilis* Roth (Fabaceae) *Diabrotica balteata* LeConte, *Omophoita cyanipennis* (Fabricius)
- Crotalaria* sp. (Fabaceae) *Altica litigata* Fall, *Chalepus sanguinicollis* (Linnaeus), *Metachroma floridanum* Crotch
- Croton californicus* Muell. Arg. (Euphorbiaceae) *Pachybrachis hepaticus* (Melsheimer)
- Croton capitatus* Michx. (Euphorbiaceae) *Chaetocnema pulicaria* Melsheimer, *Syphrea nana* (Crotch)
- Croton glandulosus* L. (Euphorbiaceae) *Nesaecrepida asphaltina* (Suffrian), *Syphrea nana* (Crotch)
- Croton gossypifolius* Vahl. (Euphorbiaceae) *Cryptocephalus trizonatus* Suffrian
- Croton monanthogynus* Michx. (Euphorbiaceae) *Syphrea nana* (Crotch)
- Croton morifolius* Willd. (Euphorbiaceae) *Zygogramma piceicollis* (Stål)
- Croton willdenowii* G. L. Webster (Euphorbiaceae) *Syphrea nana* (Crotch)
- Croton* sp. (Euphorbiaceae) *Asphaera abdominalis* (Chevrolat), *Systema gracilentia* Blake
- Crotonopsis elliptica* Willd. (Euphorbiaceae) (see *Croton willdenowii* G. L. Webster)
- Cryptotaenia canadensis* (L.) DC. (Apiaceae) *Diabrotica undecimpunctata* Mannerheim
- Cucumber (see *Cucumis sativus* L.)
- Cucumis anguria* L. (Cucurbitaceae) *Diabrotica undecimpunctata* Mannerheim, *Epitrix cucumeris* (Harris)
- Cucumis dipsaceus* Ehrenb. ex Spach (Cucurbitaceae) *Diabrotica undecimpunctata* Mannerheim
- Cucumis hardwickii* Royle (Cucurbitaceae) *Diabrotica undecimpunctata* Mannerheim
- Cucumis longipes* Hook. f. (Cucurbitaceae) (see *Cucumis anguria* L.)
- Cucumis melo* L. (Cucurbitaceae) *Acalymma gouldi* Barber, *A. peregrinum* (Jacoby), *A. trivittatum* (Melsheimer), *A. vittatum* (Fabricius), *Cerotoma ruficornis* (Olivier), *C. trifurcata* (Forster), *Chaetocnema denticulata* (Illiger), *C. ectypa* Horn, *Chelymorpha cassidea* (Fabricius), *Colaspis brunnea* (Fabricius), *Diabrotica balteata* LeConte, *D. longicornis* (Say), *D. undecimpunctata* Mannerheim, *D. virgifera* LeConte, *Disonycha caroliniana* (Fabricius), *D. fumata* (LeConte), *Epitrix cucumeris* (Harris), *E. hirtipennis* (Melsheimer), *E. subcrinita* (LeConte), *E. tuberis* Gentner, *Microrhopala vittata*

Leaf Beetles Listed by Plants

- (Fabricius), *Myochrous longulus* LeConte, *Oulema melanopus* (Linnaeus), *Paranapiacaba tricineta* (Say), *Phyllotreta cruciferae* (Goeze), *P. striolata* (Fabricius), *Systema blanda* Melsheimer, *S. elongata* (Fabricius)
- Cucumis myriocarpus* E. Mey. ex Naud. (Cucurbitaceae) *Diabrotica undecimpunctata* Mannerheim
- Cucumis prophetarum* L. f. (Cucurbitaceae) *Diabrotica undecimpunctata* Mannerheim
- Cucumis sativus* L. (Cucurbitaceae) *Acalymma gouldi* Barber, *A. trivittatum* (Melsheimer), *A. vinctum* (LeConte), *A. vittatum* (Fabricius), *Cerotoma atrofasciata* Jacoby, *C. ruficornis* (Olivier), *C. trifurcata* (Forster), *Chaetocnema confinis* Crotch, *C. denticulata* (Illiger), *C. ectypa* Horn, *C. obesula* LeConte, *C. pulicaria* Melsheimer, *C. quadricollis* Schwarz, *Charidotella sexpunctata* (Fabricius), *Chelymorpha cassidea* (Fabricius), *Chrysochus auratus* (Fabricius), *Cryptocephalus incertus* Olivier, *C. obsoletus* Germar, *C. venustus* Fabricius, *Diabrotica balteata* LeConte, *D. longicornis* (Say), *D. tibialis* Jacoby, *D. undecimpunctata* Mannerheim, *D. virgifera* LeConte, *Disonycha xanthomelas* (Dalman), *Epitrix cucumeris* (Harris), *E. fuscata* Crotch, *E. tuberis* Gentner, *Lema pubipes* Clark, *L. trabeata* Lacordaire, *Leptinotarsa decemlineata* (Say), *Paranapiacaba tricineta* (Say), *Phyllotreta striolata* (Fabricius), *Psylliodes punctulatus* Melsheimer, *Systema blanda* Melsheimer
- Cucumis* sp. (Cucurbitaceae) *Deloyala guttata* (Olivier)
- Cucurbita andreana* Naud. (Cucurbitaceae) (see *Cucurbita maxima* Duchn. ex Lam.)
- Cucurbita argyrosperma* Huber (Cucurbitaceae) *Diabrotica balteata* LeConte, *D. tibialis* Jacoby
- Cucurbita cylindrata* L. H. Bailey (Cucurbitaceae) *Acalymma vittatum* (Fabricius), *Diabrotica undecimpunctata* Mannerheim, *D. virgifera* LeConte
- Cucurbita digitata* A. Gray (Cucurbitaceae) *Acalymma vittatum* (Fabricius), *Diabrotica undecimpunctata* Mannerheim, *D. virgifera* LeConte
- Cucurbita ecuadorensis* Cutl. & Whit. (Cucurbitaceae) *Acalymma vittatum* (Fabricius), *Diabrotica undecimpunctata* Mannerheim, *D. virgifera* LeConte
- Cucurbita ficifolia* Bouché (Cucurbitaceae) *Acalymma vittatum* (Fabricius), *Diabrotica undecimpunctata* Mannerheim, *D. virgifera* LeConte
- Cucurbita foetidissima* Kunth in H. B. K. (Cucurbitaceae) *Acalymma blandulum* (LeConte), *A. gouldi* Barber, *A. trivittatum* (Melsheimer), *A. vittatum* (Fabricius), *Altica foliaceae* LeConte, *Diabrotica balteata* LeConte, *D. barberi* Smith & Lawrence, *D. cristata* (Harris), *D. lemniscata* LeConte, *D. longicornis* (Say), *D. undecimpunctata* Mannerheim, *D. virgifera* LeConte, *Paranapiacaba connexa* (LeConte), *P. tricineta* (Say)
- Cucurbita gracilior* Bailey (Cucurbitaceae) *Acalymma vittatum* (Fabricius), *Diabrotica undecimpunctata* Mannerheim, *D. virgifera* LeConte
- Cucurbita lundelliana* Bailey (Cucurbitaceae) *Acalymma vittatum* (Fabricius), *Diabrotica undecimpunctata* Mannerheim, *D. virgifera* LeConte
- Cucurbita martinezii* Bailey (Cucurbitaceae) *Acalymma vittatum* (Fabricius), *Cerotoma ruficornis* (Olivier), *Diabrotica balteata* LeConte, *D. tibialis* Jacoby, *D. undecimpunctata* Mannerheim, *D. virgifera* LeConte
- Cucurbita maxima* Duchn. ex Lam. (Cucurbitaceae) *Acalymma gouldi* Barber, *A. trivittatum* (Melsheimer), *A. vittatum* (Fabricius), *Diabrotica balteata* LeConte, *D. barberi* Smith & Lawrence, *D. cristata* (Harris), *D. longicornis* (Say), *D. tibialis* Jacoby, *D. undecimpunctata* Mannerheim, *D. virgifera* LeConte, *Disonycha glabrata* (Fabricius), *Epitrix cucumeris* (Harris), *E. tuberis* Gentner
- Cucurbita melopepo* Lour. (Cucurbitaceae) *Diabrotica undecimpunctata* Mannerheim
- Cucurbita mixta* Pang. (Cucurbitaceae) *Acalymma vittatum* (Fabricius), *Diabrotica barberi* Smith & Lawrence, *D. undecimpunctata* Mannerheim, *D. virgifera* LeConte
- Cucurbita moschata* (Duchn. ex Lam.) Duchn. ex Poir. (Cucurbitaceae) *Acalymma blandulum* (LeConte), *A. vittatum* (Fabricius), *Cerotoma ruficornis* (Olivier), *Diabrotica balteata* LeConte, *D. barberi* Smith & Lawrence, *D. tibialis* Jacoby, *D. undecimpunctata* Mannerheim, *D. virgifera* LeConte, *Epitrix cucumeris* (Harris), *Nesaecrepida asphaltina* (Suffrian), *Phyllotreta striolata* (Fabricius), *Systema blanda* Melsheimer
- Cucurbita okeechobeensis* (Small) L. H. Bailey (Cucurbitaceae) *Acalymma vinctum* (LeConte), *A. vittatum* (Fabricius), *Diabrotica undecimpunctata* Mannerheim, *D. virgifera* LeConte
- Cucurbita palmata* S. Wats. (Cucurbitaceae) *Acalymma vittatum* (Fabricius), *Diabrotica undecimpunctata* Mannerheim, *D. virgifera* LeConte
- Cucurbita palmeri* Bailey (Cucurbitaceae) *Acalymma vittatum* (Fabricius), *Diabrotica undecimpunctata* Mannerheim, *D. virgifera* LeConte
- Cucurbita pedatifolia* Bailey (Cucurbitaceae) *Acalymma vittatum* (Fabricius), *Diabrotica undecimpunctata* Mannerheim, *D. virgifera* LeConte

- Cucurbita pepo* L. (Cucurbitaceae) *Acalymma blandulum* (LeConte), *A. trivittatum* (Mannerheim), *A. vittatum* (Fabricius), *Cerotoma atrofasciata* Jacoby, *Diabrotica balteata* LeConte, *D. barberi* Smith & Lawrence, *D. longicornis* (Say), *D. tibialis* Jacoby, *D. undecimpunctata* Mannerheim, *D. virgifera* LeConte, *Disonycha glabrata* (Fabricius), *Epitrix cucumeris* (Harris), *E. subcrinita* (LeConte), *Psylliodes punctulatus* Melsheimer, *Systema blanda* Melsheimer
- Cucurbita perennis* A. Gray (Cucurbitaceae) (see *Cucurbita foetidissima* Kunth in H. B. K.)
- Cucurbita sororia* Bailey (Cucurbitaceae) *Acalymma vittatum* (Fabricius), *Diabrotica undecimpunctata* Mannerheim, *D. virgifera* LeConte
- Cucurbita texana* A. Gray (Cucurbitaceae) *Acalymma vittatum* (Fabricius), *Diabrotica barberi* Smith & Lawrence, *D. undecimpunctata* Mannerheim, *D. virgifera* LeConte
- Cucurbita* sp. (Cucurbitaceae) *Chaetocnema ectypa* Horn, *Cryptocephalus venustus* Fabricius, *Disonycha discoidea* (Fabricius), *Epitrix fasciata* Blatchley, *Galerucella nymphaeae* (Linnaeus), *Lema confusa* Chevrolat, *L. opulenta* Gemminger & Harold, *Longitarsus pellucidus* (Foudras)
- Cunila origanoides* (L.) Britt. (Lamiaceae) *Capraita circumdata* (Randall)
- Cup dipper gourd (see *Lagenaria siceraria* (Mol.) Standl.)
- Cuphea (see *Cuphea*)
- Cuphea lutea* Rose (Lythraceae) *Neogalerucella californiensis* (Linnaeus), *N. pusilla* (Duftschmid)
- Cuphea petiolata* Pohl ex Koehne (Lythraceae) (see *Cuphea viscosissima* Jacq.)
- Cuphea viscosissima* Jacq. (Lythraceae) *Ophraella notulata* (Fabricius)
- Cuphea* sp. (Lythraceae) *Altica litigata* Fall, *Colaspis favosa* Say
- Cup-of-gold (see *Solandra maxima* (Sessé & Moc.) P. S. Green)
- Cupressus arizonica* E. L. Greene (Cupressaceae) *Glyptoscelis albida* LeConte
- Cupressus benthami* Endl. (Cupressaceae) *Pachybrachis femoratus* (Olivier)
- Cupressus goveniana* Gord. (Cupressaceae) *Tymnes oregonensis* (Crotch)
- Cupressus macrocarpa* Hart. ex Gord. (Cupressaceae) *Phyllotreta ramosa* (Crotch)
- Cupressus sargentii* Jeps. (Cupressaceae) *Tymnes oregonensis* (Crotch)
- Cupressus* sp. (Cupressaceae) *Colaspidea smaragdula* (LeConte), *Cryptocephalus cupressi* Schaeffer, *Fidia humeralis* Lefèvre, *Odontota scapularis* (Olivier)
- Curled cress (see *Lepidium sativum* L.)
- Curled dock (see *Rumex crispus* L.)
- Currant (see *Ribes*)
- Cuscuta* sp. (Cuscutaceae) *Argopistes scyrtoides* LeConte, *Chelymorpha cassidea* (Fabricius)
- Cycas revoluta* Thunb. (Cycadaceae) *Monocesta coryli* (Say)
- Cyclamen persicum* Mill. (Primulaceae) *Diabrotica balteata* LeConte
- Cydonia oblonga* Mill. (Rosaceae) *Acalymma trivittatum* (Melsheimer), *A. vittatum* (Fabricius), *Altica chalybea* Illiger, *Diabrotica undecimpunctata* Mannerheim, *Odontota dorsalis* (Thunberg), *Syneta albida* LeConte
- Cymbling (see *Cucurbita pepo* L.)
- Cymopterus terebinthinus* (Hooker) Torr. & A. Gray (Apiaceae) ... *Pseudoluperus longulus* (LeConte)
- Cynanchum laeve* (Michx.) Pers. (Asclepiadaceae) *Colaspis brownsvillensis* Blake, *Labidomera clivicollis* (Kirby)
- Cynanchum racemosum* (Jacq.) Jacq. (Asclepiadaceae) *Colaspis brownsvillensis* Blake, *Labidomera clivicollis* (Kirby)
- Cynanchum scoparium* Nutt. (Asclepiadaceae) *Labidomera clivicollis* (Kirby)
- Cynanchum unifarium* (Scheele) Woods. (Asclepiadaceae) (see *Cynanchum racemosum* (Jacq.) Jacq.)
- Cynanchum vincetoxicum* (L.) Pers. (Asclepiadaceae) *Labidomera clivicollis* (Kirby)
- Cynara cardunculus* L. (Asteraceae) *Cassida rubiginosa* Müller, *Psylliodes chalconeris* (Illiger)
- Cynara scolymus* L. (Asteraceae) *Cassida rubiginosa* Müller, *Chaetocnema confinis* Crotch, *C. protensa* LeConte, *Diabrotica undecimpunctata* Mannerheim, *Epitrix cucumeris* (Harris), *E. fasciata* Blatchley, *Exema dispar* Lacordaire, *Gastrophysa polygoni* (Linnaeus), *Myochrous denticollis* (Say), *Psylliodes chalconeris* (Illiger), *Sphaeroderma testaceum* (Fabricius)
- Cynara* sp. (Asteraceae) *Altica carduorum* Guérin-Ménéville, *Chrysolina staphylaea* (Linnaeus)

Leaf Beetles Listed by Plants

- Cynodon dactylon* (L.) Pers. (Poaceae) *Brachypnoea tristis* (Olivier), *Chaetocnema denticulata* (Illiger), *C. ectypa* Horn, *C. minuta* Melsheimer, *C. pulicaria* Melsheimer, *Deloyala guttata* (Olivier), *Diabrotica undecimpunctata* Mannerheim, *Metachroma pallidum* (Say), *Myochrous whitei* Blake, *Ophraella notata* (Fabricius)
- Cynodon* sp. (Poaceae) *Myochrous denticollis* (Say)
- Cynoglossum cheirifolium* L. (Boraginaceae) *Longitarsus quadriguttatus* (Pontoppidan)
- Cynoglossum columnae* Ten. (Boraginaceae) *Longitarsus quadriguttatus* (Pontoppidan)
- Cynoglossum creticum* Mill. (Boraginaceae) *Longitarsus quadriguttatus* (Pontoppidan)
- Cynoglossum germanicum* Jacq. (Boraginaceae) *Longitarsus quadriguttatus* (Pontoppidan)
- Cynoglossum glochidiatum* Wall. ex Benth. in Royle (Boraginaceae) . . *Longitarsus quadriguttatus* (Pontoppidan)
- Cynoglossum grande* Dougl. ex Lehm. (Boraginaceae) *Longitarsus quadriguttatus* (Pontoppidan)
- Cynoglossum hungaricum* Simonkai (Boraginaceae) *Longitarsus quadriguttatus* (Pontoppidan)
- Cynoglossum occidentale* A. Gray (Boraginaceae) *Longitarsus quadriguttatus* (Pontoppidan)
- Cynoglossum officinale* L. (Boraginaceae) *Longitarsus melanurus* (Melsheimer), *L. quadriguttatus* (Pontoppidan)
- Cyperus alternifolius* auct. non L. (Cyperaceae) (see *Cyperus involucratus* Rottb.)
- Cyperus esculentus* L. (Cyperaceae) *Chaetocnema pulicaria* Melsheimer, *Diabrotica undecimpunctata* Mannerheim, *Mantura floridana* Crotch
- Cyperus ferax* L. C. Rich. (Cyperaceae) (see *Cyperus odoratus* L.)
- Cyperus involucratus* Rottb. (Cyperaceae) *Diabrotica undecimpunctata* Mannerheim
- Cyperus macrocephalus* Liebm. (Cyperaceae) (see *Cyperus odoratus* L.)
- Cyperus odoratus* L. (Cyperaceae) *Chaetocnema denticulata* (Illiger), *Diabrotica virgifera* LeConte
- Cyperus rotundus* L. (Cyperaceae) *Myochrous denticollis* (Say), *Zygogramma suturalis* (Fabricius)
- Cyperus strigosus* L. (Cyperaceae) *Chaetocnema denticulata* (Illiger), *C. pulicaria* Melsheimer, *Diabrotica undecimpunctata* Mannerheim
- Cyperus* sp. (Cyperaceae) *Longitarsus rufescens* Horn
- Cypress (see *Chamaecyparis*, *Cupressus*, *Taxodium*)
- Cypripedium acaule* Ait. (Orchidaceae) *Acalymma vittatum* (Fabricius)
- Cyrilla racemiflora* L. (Cyrillaceae) *Graphops curtippennis* (Melsheimer), *G. floridana* Blake, *Sumitrosis rosea* (Weber), *Triachus cerinus* LeConte
- Cytisus* sp. (Fabaceae) *Pachybrachis analis* LeConte
- Dactylis glomerata* L. (Poaceae) *Chaetocnema confinis* Crotch, *C. denticulata* (Illiger), *C. minuta* Melsheimer, *C. protensa* LeConte, *C. pulicaria* Melsheimer, *Oulema melanopus* (Linnaeus)
- Dactylis* sp. (Poaceae) *Diabrotica undecimpunctata* Mannerheim
- Dahlia (see *Dahlia*)
- Dahlia pinnata* Cav. (Asteraceae) *Colaspis floridana* Schaeffer, *Diabrotica undecimpunctata* Mannerheim
- Dahlia rosea* Cav. (Asteraceae) (see *Dahlia pinnata* Cav.)
- Dahlia variabilis* (Willd.) Desf. (Asteraceae) (see *Dahlia pinnata* Cav.)
- Dahlia* sp. (Asteraceae) *Acalymma vittatum* (Fabricius), *Brachypnoea chypealis* (Horn), *B. tristis* (Olivier), *Calligrapha californica* Linell, *Colaspis brunnea* (Fabricius), *Diabrotica longicornis* (Say), *Leptinotarsa decemlineata* (Say), *Lilioceris lili* (Scopoli), *Metrioidea brunnea* (Crotch), *Psylliodes affinis* (Paykull), *Systema blanda* Melsheimer, *S. elongata* (Fabricius), *S. frontalis* (Fabricius), *Tricholochmaea cavicollis* (LeConte)
- Daikon (see *Raphanus sativus* L.)
- Daisy (see *Chrysanthemum* and similar genera)
- Dalbergia ecastaphyllum* (L.) Taub. (Fabaceae) *Cryptocephalus nigrocinctus* Suffrian
- Dalea candida* Michx. ex Willd. (Fabaceae) *Diabrotica cristata* (Harris)
- Dalea purpurea* Vent. (Fabaceae) *Diabrotica cristata* (Harris), *D. undecimpunctata* Mannerheim, *Distigmoptera borealis* Blake, *Pachybrachis othonus* (Say)
- Dalea* sp. (Fabaceae) *Altica oblitterata* LeConte, *Androlyperus incisus* Schaeffer, *Chaetocnema quadricollis* Schwarz, *Disonycha fumata* (LeConte)
- Dandelion (see *Taraxacum*)
- Darmera peltata* (Torr. ex Benth.) Voss (Saxifragaceae) *Bromius obscurus* (Linnaeus)

- Dasistoma macrophylla* (Nutt.) Raf. (Scrophulariaceae) *Capraita circumdata* (Randall), *Dibolia sinuata* Horn, *Kuschelina horni* (Harold)
- Dasyllirion* sp. (Agavaceae) *Triarius lividus* (LeConte)
- Date palm (see *Phoenix dactylifera* L.)
- Datura bernhardii* Lundstr. (Solanaceae) *Leptinotarsa decemlineata* (Say)
- Datura ceratocaula* Ortega (Solanaceae) *Leptinotarsa decemlineata* (Say)
- Datura chlorantha* Hook. (Solanaceae) *Leptinotarsa decemlineata* (Say)
- Datura discolor* Bernh. (Solanaceae) *Lema daturaphila* Kogan & Goeden
- Datura fastuosa* auct. non L. (Solanaceae) (see *Datura inoxia* P. Mill.)
- Datura ferox* auct. non L. (Solanaceae) (see *Datura quercifolia* Kunth)
- Datura gigantea* Huber (Solanaceae) *Leptinotarsa decemlineata* (Say)
- Datura inermis* Juss. ex Jacq. (Solanaceae) *Leptinotarsa decemlineata* (Say)
- Datura inoxia* P. Mill. (Solanaceae) (see *Datura inoxia* P. Mill.)
- Datura inoxia* P. Mill. (Solanaceae) *Gratiana pallidula* (Boheman), *Lema confusa* Chevrolat, *L. daturaphila* Kogan & Goeden, *L. nigrovittata* (Guérin-Ménéville), *Leptinotarsa decemlineata* (Say)
- Datura leichhardtii* F. Muell ex Benth. (Solanaceae) *Lema daturaphila* Kogan & Goeden, *Leptinotarsa decemlineata* (Say)
- Datura metel* L. (Solanaceae) *Lema daturaphila* Kogan & Goeden, *L. nigrovittata* (Guérin-Ménéville)
- Datura meteloides* Dunal (Solanaceae) *Epitrix fasciata* Blatchley, *E. subcrinita* (LeConte), *E. tuberosa* Gentner, *Lema daturaphila* Kogan & Goeden, *L. nigrovittata* (Guérin-Ménéville), *Leptinotarsa decemlineata* (Say), *Plagiometriona clavata* (Fabricius)
- Datura pruinosa* Greenm. (Solanaceae) *Lema daturaphila* Kogan & Goeden
- Datura quercifolia* Kunth (Solanaceae) *Lema daturaphila* Kogan & Goeden, *L. trivittata* Say, *Leptinotarsa decemlineata* (Say)
- Datura sanguinea* Ruiz & Pav. (Solanaceae) (see *Brugmansia sanguinea* (Ruiz & Pav.) D. Don)
- Datura stramonium* L. (Solanaceae) *Charidotella sexpunctata* (Fabricius), *Chelymorpha cassidea* (Fabricius), *Deloyala guttata* (Olivier), *Diabrotica balteata* LeConte, *D. undecimpunctata* Mannerheim, *Epitrix brevis* Schwarz, *E. cucumeris* (Harris), *E. fasciata* Blatchley, *E. fuscata* Crotch, *E. hirtipennis* (Melsheimer), *E. tuberosa* Gentner, *Lema confusa* Chevrolat, *L. daturaphila* Kogan & Goeden, *L. nigrovittata* (Guérin-Ménéville), *L. trabeata* Lacordaire, *L. trivittata* Say, *Leptinotarsa decemlineata* (Say), *Plagiometriona clavata* (Fabricius), *Systema blanda* Melsheimer, *Zygogramma piceicollis* (Stål), *Z. signatipennis* (Stål)
- Datura tatula* L. (Solanaceae) (see *Datura stramonium* L.)
- Datura wrightii* Regel (Solanaceae) *Epitrix hirtipennis* (Melsheimer), *Lema daturaphila* Kogan & Goeden
- Datura* sp. (Solanaceae) *Acalymma vittatum* (Fabricius), *Colaspis melaina* Blake, *Glyptoscels squamulata* Crotch, *Leptinotarsa haldemani* (Rogers), *Liliocercis lilii* (Scopoli), *Saxinis saucia* LeConte
- Daubentonia longifolia* (Cav.) DC. (Fabaceae) *Diabrotica undecimpunctata* Mannerheim
- Daucus carota* L. (Apiaceae) *Acalymma vittatum* (Fabricius), *Anomoea laticlavata* (Forster), *Brachypnoea clypealis* (Horn), *B. rotundicollis* (Schaeffer), *B. tristis* (Olivier), *Capraita subvittata* (Horn), *Ceratomyia trifurcata* (Forster), *Chaetocnema ectypa* Horn, *Charidotella sexpunctata* (Fabricius), *Colaspis brunnea* (Fabricius), *Crepidodera nana* (Say), *Diabrotica balteata* LeConte, *D. cristata* (Harris), *D. longicornis* (Say), *D. undecimpunctata* Mannerheim, *Diachus auratus* (Fabricius), *Disonychia discoidea* (Fabricius), *D. triangularis* (Say), *Epitrix cucumeris* (Harris), *E. hirtipennis* (Melsheimer), *Labidomera clivicollis* (Kirby), *Lexiphanes saponatus* (Fabricius), *Luperaltica nigripalpis* (LeConte), *Neolema dorsalis* (Olivier), *Octotoma plicatula* (Fabricius), *Phyllotreta pusilla* Horn, *P. striolata* (Fabricius), *Systema blanda* Melsheimer, *S. elongata* (Fabricius), *S. frontalis* (Fabricius), *Trirhabda geminata* Horn, *Zygogramma piceicollis* (Stål), *Z. signatipennis* (Stål)
- Daucus pusillus* Michx. (Apiaceae) *Diabrotica undecimpunctata* Mannerheim
- Day flower (see *Commelina*)
- Day-flower (see *Commelina*)
- Day lily (see *Hemerocallis*)
- Decodon verticillatus* (L.) Ell. (Lythraceae) *Neogalerucella californiensis* (Linnaeus), *N. pusilla* (Duftschmid), *Systema frontalis* (Fabricius)

Leaf Beetles Listed by Plants

- Delaware grape (see *Vitis labrusca* L., *V. riparia* Michx.)
- Delonix regia* (Boj. ex Hook.) Raf. (Fabaceae) *Diachus auratus* (Fabricius)
- Delphinium carolinianum* Walt. (Ranunculaceae) *Diabrotica cristata* (Harris)
- Dendranthema* x *grandiflorum* Kitam. (Asteraceae) *Longitarsus succineus* (Foudras)
- Dendranthema indicum* (L.) Des Moul. (Asteraceae) *Diabrotica undecimpunctata* Mannerheim,
Longitarsus succineus (Foudras), *Trirhabda canadensis* (Kirby)
- Dendranthema morifolium* (Ramat.) Tzvelev (Asteraceae) (see *Dendranthema* x *grandiflorum* Kitam.)
- Dendromecon rigida* Benth. (Papaveraceae) *Scelolyperus torquatus* (LeConte)
- Dentaria laciniata* Muhl. ex Willd. (Brassicaceae) (see *Cardamine concatenata* (Michx.) O.
Schwarz)
- Descurainia pinnata* (Walt.) Britt. (Brassicaceae) *Entomoscelis americana* Brown, *Epitrix*
tuberis Gentner, *Phaedon prasinellus* (LeConte), *Phyllotreta cruciferae* (Goeze), *P. pusilla* Horn, *Psyl-*
liodes convexior LeConte
- Descurainia richardsonii* (Sweet) O. W. Schulz (Brassicaceae) *Entomoscelis americana* Brown, *Phyl-*
lotreta cruciferae (Goeze)
- Descurainia sophia* (L.) Webb in Engler & Prantl (Brassicaceae) . . *Entomoscelis americana* Brown, *Monoxia*
debilis LeConte, *Phyllotreta albionica* (LeConte), *P. cruciferae* (Goeze), *P. striolata* (Fabricius), *P. undu-*
lata (Kutschera), *Psylliodes punctulatus* Melsheimer, *Zygogramma conjuncta* (Rogers)
- Descurainia* sp. (Brassicaceae) *Chaetocnema subconvexa* White
- Desmanthus illinoensis* (Michx.) MacMill. ex Robinson & Fern. (Fabaceae) . *Anomoea flavokansiensis*
Moldenke, *A. laticlavata* (Forster), *Colaspis louisianae* Blake, *Saxinis knausii* Schaeffer, *S. omogera* Lacordaire
- Desmanthus* sp. (Fabaceae) *Coleothorpa axillaris* (LeConte)
- Desmodium canadense* (L.) DC. (Fabaceae) *Odontota horni* Smith
- Desmodium canescens* (L.) DC. (Fabaceae) *Bassareus lituratus* (Fabricius), *Cerotoma*
trifurcata (Forster), *Colaspis brunnea* (Fabricius), *Odontota horni* Smith
- Desmodium cuspidatum* (Muhl. ex Willd.) DC. ex Loud. (Fabaceae) . *Cerotoma trifurcata* (Forster)
- Desmodium glabellum* (Michx.) DC. (Fabaceae) *Colaspis brunnea* (Fabricius), *Phyllecthris*
dorsalis (Olivier)
- Desmodium glutinosum* (Muhl. ex Willd.) Wood (Fabaceae) *Cerotoma trifurcata* (Forster), *Phyllecthris*
dorsalis (Olivier), *Sumitrosis rosea* (Weber)
- Desmodium illinoense* A. Gray (Fabaceae) *Cerotoma trifurcata* (Forster), *Colaspis*
brunnea (Fabricius), *Odontota horni* Smith
- Desmodium incanum* DC. (Fabaceae) *Cerotoma ruficornis* (Olivier)
- Desmodium laevigatum* (Nutt.) DC. (Fabaceae) *Cerotoma trifurcata* (Forster)
- Desmodium obtusum* (Muhl. ex Willd.) DC. (Fabaceae) *Odontota horni* Smith
- Desmodium paniculatum* (L.) DC. (Fabaceae) *Anomoea flavokansiensis* Moldenke, *Cero-*
toma trifurcata (Forster), *Phyllecthris dorsalis* (Olivier), *P. gentilis* (LeConte), *Saxinis omogera* Lacor-
- daire, *Sumitrosis rosea* (Weber)
- Desmodium rigidum* (Ell.) DC. (Fabaceae) (see *Desmodium obtusum* (Muhl. ex
Willd.) DC.)
- Desmodium sessilifolium* (Torr.) Torr. & Gray (Fabaceae) *Cerotoma trifurcata* (Forster)
- Desmodium tortuosum* (Sw.) DC. (Fabaceae) *Cerotoma trifurcata* (Forster), *Diabrotica*
balteata LeConte
- Desmodium* sp. (Fabaceae) *Altica ignita* Illiger, *Anomoea laticlavata*
(Forster), *Babia quadriguttata* (Olivier), *Brachypnoea clypealis* (Horn), *B. tristis* (Olivier), *Colaspis*
louisianae Blake, *Cryptocephalus insertus* Haldeman, *Diachus auratus* (Fabricius), *Epitrix cucumeris*
(Harris), *Griburius scutellaris* (Fabricius), *Lexiphanes saponatus* (Fabricius), *Neolema cordata* White,
Odontota dorsalis (Thunberg), *O. scapularis* (Olivier), *Pachybrachis luridus* (Fabricius), *P. nigricornis*
(Say), *P. othonus* (Say), *P. peccans* Suffrian, *P. precarius* Fall, *Phyllotreta aeneicollis* (Crotch), *P. zim-*
mermanni (Crotch)
- Desmothamnus nitida* (Bartr. ex Marshall) Small (Ericaceae) *Kuschelina ulkei* (Horn)
- Dewberry (see *Rubus*)
- Dianthus barbatus* L. (Caryophyllaceae) *Cassida azurea* Fabricius
- Dianthus caryophyllus* L. (Caryophyllaceae) *Cassida azurea* Fabricius, *Diabrotica*
balteata LeConte
- Dianthus chinensis* L. (Caryophyllaceae) *Cassida azurea* Fabricius
- Dianthus myrtinervius* Griseb. (Caryophyllaceae) *Cassida azurea* Fabricius
- Dianthus plumarius* L. (Caryophyllaceae) *Cassida azurea* Fabricius
- Dianthus* sp. (Caryophyllaceae) *Diabrotica undecimpunctata* Mannerheim

<i>Dicentra</i> sp. (Fumariaceae)	<i>Diabrotica undecimpunctata</i> Mannerheim
<i>Dichanthelium clandestinum</i> (L.) Gould (Poaceae)	<i>Chalepus bicolor</i> (Olivier)
<i>Dichanthelium dichotomum</i> (L.) Gould (Poaceae)	<i>Chalepus bicolor</i> (Olivier)
<i>Dichanthelium latifolium</i> (L.) Gould & C. A. Clark (Poaceae)	<i>Chalepus bicolor</i> (Olivier)
<i>Dichanthelium microcarpon</i> (Muhl. ex Elliott) Mohlenbr. (Poaceae)	<i>Chalepus bicolor</i> (Olivier)
<i>Dichanthelium nitidum</i> (Lam.) Mohlenbr. (Poaceae)	(see <i>Dichanthelium dichotomum</i> (L.) Gould)
<i>Dichanthelium oligosanthos</i> (J. A. Schultes) Gould (Poaceae)	(see <i>Dichanthelium scribnerianum</i> Nash)
<i>Dichanthelium scoparium</i> (Lam.) Gould (Poaceae)	<i>Chalepus bicolor</i> (Olivier), <i>Myochrous denticollis</i> (Say)
<i>Dichanthelium scribnerianum</i> Nash (Poaceae)	<i>Chalepus bicolor</i> (Olivier)
<i>Dichondra</i>	(see <i>Dichondra</i>)
<i>Dichondra carolinensis</i> Michx. (Convolvulaceae)	<i>Chaetocnema repens</i> McCrea
<i>Dichondra micrantha</i> Urban (Convolvulaceae)	<i>Chaetocnema repens</i> McCrea
<i>Dichondra repens</i> non J. R. Forst. & G. Forst. (Convolvulaceae)	(see <i>Dichondra micrantha</i> Urban)
<i>Dichondra</i> sp. (Convolvulaceae)	<i>Chaetocnema confinis</i> Crotch, <i>C. magnipunctata</i> Gentner
<i>Dicoria canescens</i> A. Gray (Asteraceae)	<i>Exema deserti</i> Pierce, <i>Pachybrachis melilitus</i> Bowditch, <i>Zygogramma tortuosa</i> (Rogers)
<i>Dicranum polysetum</i> Sw. (Dicranaceae)	<i>Phyllotreta striolata</i> (Fabricius)
<i>Dicranum scoparium</i> Hedw. (Dicranaceae)	<i>Phyllotreta striolata</i> (Fabricius)
<i>Diervilla</i> sp. (Caprifoliaceae)	<i>Systema frontalis</i> (Fabricius)
<i>Digitalis</i> sp. (Scrophulariaceae)	<i>Diabrotica undecimpunctata</i> Mannerheim
<i>Digitaria ciliaris</i> (Retz.) Koel. (Poaceae)	<i>Diabrotica virgifera</i> LeConte
<i>Digitaria eriantha</i> Steud. (Poaceae)	<i>Acalymma vittatum</i> (Fabricius), <i>Cerotoma ruficornis</i> (Olivier), <i>Chalepus bellulus</i> (Chapuis), <i>Cryptocephalus trizonatus</i> Suffrian, <i>Griburius larvatus</i> Newman, <i>Typophorus nigratus</i> (Fabricius)
<i>Digitaria filiformis</i> (L.) Koeler (Poaceae)	<i>Oulema melanopus</i> (Linnaeus)
<i>Digitaria insularis</i> (L.) Mez ex Ekman (Poaceae)	<i>Chalepus sanguinicollis</i> (Linnaeus)
<i>Digitaria ischaemum</i> (Schreb.) Schreb. ex Muhl. (Poaceae)	<i>Chaetocnema denticulata</i> (Illiger), <i>C. pulicaria</i> Melsheimer
<i>Digitaria sanguinalis</i> (L.) Scop. (Poaceae)	<i>Chaetocnema denticulata</i> (Illiger), <i>C. pulicaria</i> Melsheimer, <i>Colaspis brunnea</i> (Fabricius), <i>Diabrotica undecimpunctata</i> Mannerheim, <i>Glyphuroplata uniformis</i> (Smith)
<i>Digitaria</i> sp. (Poaceae)	<i>Myochrous denticollis</i> (Say)
<i>Dimocarpus longan</i> Lour. (Sapindaceae)	<i>Rhabdopterus bowditchi</i> Barber
<i>Dimorphocarpa wislizenii</i> (Engelm.) Rollins (Brassicaceae)	<i>Psylliodes convexior</i> LeConte
<i>Diodia saponariifolia</i> (Cham. & Schltdl.) Schum. (Rubiaceae)	<i>Neolochmaea obliterata</i> (Olivier)
<i>Diodia sarmentosa</i> Sw. (Rubiaceae)	<i>Neolochmaea obliterata</i> (Olivier)
<i>Diodia teres</i> Walter (Rubiaceae)	<i>Strabala rufa</i> (Illiger), <i>Systema frontalis</i> (Fabricius)
<i>Diodia virginiana</i> L. (Rubiaceae)	<i>Strabala rufa</i> (Illiger), <i>Systema frontalis</i> (Fabricius)
<i>Dioscorea discolor</i> Kunth (Dioscoreaceae)	<i>Charidotella sexpunctata</i> (Fabricius), <i>Chelymorpha cassidea</i> (Fabricius), <i>Deloyala guttata</i> (Olivier)
<i>Dioscorea esculenta</i> (Lour.) Burkill (Dioscoreaceae)	<i>Charidotella sexpunctata</i> (Fabricius), <i>Chelymorpha cassidea</i> (Fabricius), <i>Deloyala guttata</i> (Olivier)
<i>Dioscorea sativa</i> L. (Dioscoreaceae)	(see <i>Dioscorea esculenta</i> (Lour.) Burkill)
<i>Diospyros texana</i> Scheele (Ebenaceae)	<i>Miraces aeneipennis</i> Jacoby, <i>Systema collaris</i> Crotch
<i>Diospyros virginiana</i> L. (Ebenaceae)	<i>Anomoea laticlavata</i> (Forster), <i>Colaspis favosa</i> Say, <i>Cryptocephalus guttulatus</i> Olivier, <i>C. notatus</i> Fabricius, <i>C. quadruplex</i> Newman, <i>Pachybrachis impurus</i> Suffrian
<i>Diospyros</i> sp. (Ebenaceae)	<i>Bassareus brunnipes</i> (Olivier), <i>Diabrotica virgifera</i> LeConte, <i>Erynephala puncticollis</i> (Say), <i>Odontota dorsalis</i> (Thunberg), <i>Pachybrachis texanus</i> Bowditch
<i>Diplotaxis auriculata</i> Dur. (Brassicaceae)	<i>Psylliodes chrysocephalus</i> (Linnaeus)
<i>Diplotaxis erucoides</i> (L.) DC. (Brassicaceae)	<i>Phyllotreta cruciferae</i> (Goeze), <i>Psylliodes chrysocephalus</i> (Linnaeus)

Leaf Beetles Listed by Plants

<i>Diplotaxis muralis</i> (L.) DC. (Brassicaceae)	<i>Phyllotreta undulata</i> (Kutschera)
<i>Diplotaxis</i> sp. (Brassicaceae)	<i>Phyllotreta punctulata</i> (Marsham)
<i>Dirca palustris</i> L. (Thymelaeaceae)	<i>Chaetocnema minuta</i> Melsheimer
<i>Distichlis spicata</i> (L.) Greene (Poaceae)	<i>Chaetocnema ectypa</i> Horn, <i>C. pulicaria</i> Melsheimer, <i>Crepidodera bella</i> Parry, <i>Myochrous whitei</i> Blake
<i>Ditaxis lanceolata</i> (Benth.) Pax & K. Hoffm. (Euphorbiaceae)	(see <i>Argythamnia lanceolata</i> (Benth.) Muell.-Arg.)
<i>Ditaxis neomexicana</i> (Muell.-Agr.) Heller (Euphorbiaceae)	(see <i>Argythamnia neomexicana</i> Muell.-Arg.)
<i>Ditaxis serrata</i> (Torr.) Heller (Euphorbiaceae)	(see <i>Argythamnia serrata</i> (Torr.) Muell.-Arg.)
Dock	(see <i>Rumex</i>)
<i>Doellingeria umbellata</i> (Mill.) Nees (Asteraceae)	<i>Diachus auratus</i> (Fabricius), <i>Microrhopala excavata</i> (Olivier)
Dogbane	(see <i>Apocynum</i>)
Dog-fennel	(see <i>Anthemis cotula</i> L., <i>Eupatorium capilifolium</i> (Lam.) Small)
Dog mustard	(see <i>Erucastrum gallicum</i> (Willd.) O. E. Schulz)
Dogwood	(see <i>Cornus</i>)
<i>Dolichos atropurpureus</i> L. (Fabaceae)	(see <i>Lablab purpureus</i> (L.) Sweet)
<i>Dolichos lablab</i> L. (Fabaceae)	(see <i>Lablab purpureus</i> (L.) Sweet)
<i>Dolichos minimus</i> L. (Fabaceae)	(see <i>Rhynchosia minima</i> (L.) DC.)
<i>Dombeya</i> sp. (Sterculiaceae)	<i>Lema solani</i> Fabricius
<i>Dondia americana</i> (Pers.) Britton (Chenopodiaceae)	(see <i>Suaeda linearis</i> (Elliott) Moq.)
<i>Dondia erecta</i> (S. Wats.) A. Nelson (Chenopodiaceae)	(see <i>Suaeda depressa</i> (Pursh) S. Wats.)
<i>Dondia multiflora</i> (Torr.) A. Heller (Chenopodiaceae)	(see <i>Suaeda torreyana</i> S. Watson)
<i>Dondia</i> sp. (Chenopodiaceae)	(see <i>Suaeda</i>)
Douglas fir	(see <i>Pseudotsuga menziesii</i> (Mirbel) Franco)
Downy brome	(see <i>Bromus tectorum</i> L.)
<i>Draba streptocarpa</i> A. Gray (Brassicaceae)	<i>Phyllotreta albionica</i> (LeConte)
<i>Dryas drummondii</i> Richards. ex Hook. (Rosaceae)	<i>Galeruca rudis</i> LeConte
<i>Dudleya cultrata</i> Rose (Crassulaceae)	<i>Cryptocephalus sanguinicollis</i> Suffrian
<i>Dulichium arundinaceum</i> (L.) Britt. (Cyperaceae)	<i>Plateumaris pusilla</i> (Say)
Dullseed cornbind	(see <i>Polygonum convolvulus</i> L.)
<i>Duranta erecta</i> L. (Verbenaceae)	<i>Uroplata girardi</i> Pic
<i>Duranta repens</i> L. (Verbenaceae)	(see <i>Duranta erecta</i> L.)
<i>Duranta</i> sp. (Verbenaceae)	<i>Octotoma scabripennis</i> Guérin-Méneville
Dutch iris	(see <i>Iris xiphium</i> L.)
Dwarf huckleberry	(see <i>Gaylussacia dumosa</i> (Andr.) Torr. & Gray)
<i>Dyschoriste decumbens</i> (Gray) O. Ktze. (Acanthaceae)	<i>Kuschelina flavocyanea</i> (Crotch)
Easter lily	(see <i>Lilium longiflorum</i> Thunb.)
Eastern cottonwood	(see <i>Populus deltoides</i> Marshall)
Eastern white pine	(see <i>Pinus strobus</i> L.)
<i>Ebenopsis ebano</i> (Berl.) Barneby & Grimes (Fabaceae)	<i>Cryptocephalus guttulatellus</i> Schaeffer, <i>Glenidion flexicaulis</i> (Schaeffer), <i>Malacorhinus acaciae</i> (Schaeffer), <i>Metaparia viridimicans</i> (Horn), <i>Pachybrachis texanus</i> Bowditch
Ebony	(see <i>Diospyros</i>)
<i>Echinacea angustifolia</i> DC. (Asteraceae)	<i>Diabrotica cristata</i> (Harris), <i>Exema byersi</i> Karren
<i>Echinacea pallida</i> (Nutt.) Nutt. (Asteraceae)	<i>Diabrotica cristata</i> (Harris), <i>D. undecimpunctata</i> Mannerheim
<i>Echinacea paradoxa</i> (Norton) Britton (Asteraceae)	<i>Systema hudsonias</i> (Forster)
<i>Echinacea purpurea</i> (L.) Moench (Asteraceae)	<i>Longitarsus testaceus</i> (Melsheimer)
<i>Echinochloa colonum</i> L. (Poaceae)	<i>Diabrotica balteata</i> LeConte
<i>Echinochloa crus-galli</i> (L.) Beauv. (Poaceae)	<i>Chaetocnema denticulata</i> (Illiger), <i>C. pulicaria</i> Melsheimer, <i>Colaspis brunnea</i> (Fabricius), <i>Diabrotica balteata</i> LeConte, <i>D. undecimpunctata</i> Mannerheim, <i>Psylliodes convexior</i> LeConte

<i>Echinochloa frumentacea</i> (Roxb.) Link (Poaceae)	<i>Oulema melanopus</i> (Linnaeus)
<i>Echinocystis fabacea</i> Naud. (Cucurbitaceae)	<i>Diabrotica undecimpunctata</i> Mannerheim
<i>Echinocystis lobata</i> (Michx.) Torr. & Gray (Cucurbitaceae)	<i>Acalymma gouldi</i> Barber, <i>A. vittatum</i> (Fabricius), <i>Diabrotica undecimpunctata</i> Mannerheim
<i>Echinocystis oregana</i> Cogn. (Cucurbitaceae)	<i>Diabrotica undecimpunctata</i> Mannerheim
<i>Echinops sphaerocephalus</i> L. (Asteraceae)	<i>Cassida rubiginosa</i> Müller
<i>Echinops</i> sp. (Asteraceae)	<i>Altica carduorum</i> Guérin-Ménéville
<i>Echium italicum</i> L. (Boraginaceae)	<i>Longitarsus quadriguttatus</i> (Pontoppidan)
<i>Echium vulgare</i> L. (Boraginaceae)	<i>Longitarsus melanurus</i> (Melsheimer), <i>L. quadriguttatus</i> (Pontoppidan)
<i>Echium</i> sp. (Boraginaceae)	<i>Longitarsus succineus</i> (Foudras)
Eggplant	(see <i>Solanum melongena</i> L.)
<i>Ehretia anacua</i> (Terán & Berland.) I. M. Johnst. (Boraginaceae)	<i>Brucita marmorata</i> (Jacoby), <i>Coptocycla texana</i> (Schaeffer), <i>Cryptocephalus trizonatus</i> Suffrian
<i>Ehretia elliptica</i> A. DC. (Boraginaceae)	<i>Cryptocephalus trizonatus</i> Suffrian, <i>Spintherophyta globosa</i> (Olivier)
<i>Elaeagnus commutata</i> Bernh. ex Rydb. (Thymelaeaceae)	<i>Phyllotreta robusta</i> LeConte
<i>Elaeagnus</i> sp. (Thymelaeaceae)	<i>Disonycha discoidea</i> (Fabricius)
<i>Elaeis</i> sp. (Arecaceae)	<i>Neolema dorsalis</i> (Olivier)
Elder	(see <i>Sambucus</i>)
Elderberry	(see <i>Sambucus</i>)
<i>Eleocharis palustris</i> (L.) Roemer & J. A. Schultes (Cyperaceae)	<i>Diabrotica undecimpunctata</i> Mannerheim, <i>Plateumaris flavipes</i> (Kirby), <i>P. pusilla</i> (Say)
<i>Eleocharis quadrangulata</i> (Michx.) R. & S. (Cyperaceae)	<i>Donacia liebecki</i> Schaeffer
<i>Eleocharis</i> sp. (Cyperaceae)	<i>Donacia fulgens</i> LeConte, <i>D. rugosa</i> LeConte, <i>D. subtilis</i> Kunze, <i>Plateumaris aurifera</i> (LeConte), <i>P. dubia</i> (Schaeffer), <i>P. fulvipes</i> (Lacordaire), <i>P. germari</i> (Mannerheim), <i>P. nitida</i> (Germar), <i>P. robusta</i> (Schaeffer)
<i>Eleusine indica</i> (L.) Gaertn. (Poaceae)	<i>Chaetocnema denticulata</i> (Illiger), <i>C. pulicaria</i> Melsheimer, <i>Diabrotica virgifera</i> LeConte
Elm	(see <i>Ulmus</i>)
Elvira grape	(see <i>Vitis labrusca</i> L.)
<i>Elymus canadensis</i> L. (Poaceae)	<i>Diabrotica longicornis</i> (Say), <i>D. virgifera</i> LeConte
<i>Elymus cinereus</i> Scribn. (Poaceae)	(see <i>Leymus cinereus</i> (Scribn. & Merr.) A. Löve)
<i>Elymus elongatus</i> (Host) Runemark (Poaceae)	(see <i>Thinopyrum ponticum</i> (Podp.) Z.-W. Liu & R.-C. Wang)
<i>Elymus hystrix</i> L. (Poaceae)	<i>Chalepus walshii</i> (Crotch)
<i>Elymus repens</i> (L.) Gould (Poaceae)	<i>Oulema melanopus</i> (Linnaeus)
<i>Elymus trachycaulis</i> (Link.) Gould ex Shinnars (Poaceae)	<i>Diabrotica longicornis</i> (Say), <i>D. virgifera</i> LeConte
<i>Elymus villosus</i> Muhl. ex Willd. (Poaceae)	<i>Chalepus walshii</i> (Crotch)
<i>Elymus virginicus</i> L. (Poaceae)	<i>Chaetocnema pulicaria</i> Melsheimer, <i>Labidomera clivicollis</i> (Kirby)
<i>Elymus</i> sp. (Poaceae)	<i>Chaetocnema confinis</i> Crotch, <i>Diabrotica undecimpunctata</i> Mannerheim, <i>Paria fragariae</i> Wilcox, <i>P. quadrinotata</i> (Say), <i>Phyllotreta striolata</i> (Fabricius), <i>Systema blanda</i> Melsheimer
<i>Elytrigia elongata</i> (Host) Nevski (Poaceae)	(see <i>Thinopyrum ponticum</i> (Podp.) Z.-W. Liu & R.-C. Wang)
<i>Elytrigia intermedia</i> (Host) Nevski (Poaceae)	(see <i>Thinopyrum intermedium</i> (Host) Barkworth & D. R. Dewey)
<i>Elytrigia repens</i> (L.) Desv. ex B. D. Jackson (Poaceae)	(see <i>Elymus repens</i> (L.) Gould)
<i>Elytrigia smithii</i> (Rydb.) Nevski (Poaceae)	(see <i>Pascopyrum smithii</i> (Rydb.) A. Löve)
<i>Elytrigia trichophora</i> (Link) Nevski (Poaceae)	(see <i>Thinopyrum intermedium</i> (Host) Barkworth & D. R. Dewey)
<i>Emilia coccinea</i> (Sims) G. Don (Asteraceae)	<i>Longitarsus jacobaeae</i> (Waterhouse)
<i>Encelia californica</i> Nutt. (Asteraceae)	<i>Exema conspersa</i> (Mannerheim), <i>Microrhopala rubrolineata</i> (Mannerheim), <i>Pseudoluperus maculicollis</i> (LeConte), <i>Trirhabda geminata</i> Horn

Leaf Beetles Listed by Plants

<i>Encelia farinosa</i> A. Gray (Asteraceae)	<i>Androlyperus maculatus</i> LeConte, <i>Exema deserti</i> Pierce, <i>Microrhopala rubrolineata</i> (Mannerheim), <i>Saxinis deserticola</i> Moldenke, <i>Trirhabda geminata</i> Horn
<i>Encelia frutescens</i> (A. Gray) A. Gray (Asteraceae)	<i>Trirhabda geminata</i> Horn
<i>Encelia halimifolia</i> Cav. (Asteraceae)	<i>Microrhopala rubrolineata</i> (Mannerheim)
<i>Encelia palmeri</i> Vasey & Rose (Asteraceae)	<i>Microrhopala rubrolineata</i> (Mannerheim)
<i>Encelia virginensis</i> A. Nels. (Asteraceae)	(see <i>Encelia frutescens</i> (A. Gray) A. Gray)
<i>Encelia</i> sp. (Asteraceae)	<i>Cryptocephalus sanguinicollis</i> Suffrian, <i>Monoxia apicalis</i> Blake, <i>Pachybrachis desertus</i> Fall
<i>Enemion biternatum</i> Raf. (Ranunculaceae)	<i>Acalymma vittatum</i> (Fabricius)
English bluegrass	(see <i>Festuca elatior</i> L.)
English broad bean	(see <i>Vicia faba</i> L.)
English elm	(see <i>Ulmus minor</i> Mill.)
English filbert	(see <i>Corylus avellana</i> L.)
English horse bean	(see <i>Vicia faba</i> L.)
English ivy	(see <i>Hedera helix</i> L.)
English pea	(see <i>Pisum sativum</i> L.)
English plantain	(see <i>Plantago lanceolata</i> L.)
English walnut	(see <i>Juglans regia</i> L.)
<i>Ephedra californica</i> Wats. (Ephedraceae)	<i>Coleothorpa panochensis</i> (Gilbert), <i>Saxinis deserticola</i> Moldenke
<i>Ephedra nebrodensis</i> Tineo ex Guss. (Ephedraceae)	<i>Longitarsus succineus</i> (Foudras)
<i>Ephedra</i> sp. (Ephedraceae)	<i>Zygogramma tortuosa</i> (Rogers)
<i>Epigaea repens</i> L. (Ericaceae)	<i>Epitrix cucumeris</i> (Harris)
<i>Epilobium adenocaulon</i> Haussk. (Onagraceae)	<i>Altica lazulina</i> LeConte, <i>Sumitrosis inaequalis</i> (Weber), <i>Systema frontalis</i> (Fabricius)
<i>Epilobium angustifolium</i> L. (Onagraceae)	(see <i>Chamerion angustifolium</i> (L.) Holub)
<i>Epilobium hirsutum</i> L. (Onagraceae)	<i>Bromius obscurus</i> (Linnaeus)
<i>Epilobium palustre</i> L. (Onagraceae)	<i>Altica corni</i> Woods, <i>A. rosae</i> Woods, <i>A. ulmi</i> Woods
<i>Epilobium spicatum</i> Lam. (Onagraceae)	(see <i>Chamerion angustifolium</i> (L.) Holub)
<i>Epilobium</i> sp. (Onagraceae)	<i>Tricholochmaea decora</i> (Say)
<i>Equisetum</i> sp. (Equisetaceae)	<i>Altica corni</i> Woods, <i>Hippuriphila canadensis</i> Brown, <i>H. equiseti</i> Beller & Hatch, <i>H. mancula</i> (LeConte), <i>Labidomera clivicollis</i> (Kirby)
<i>Eragrostis curvula</i> (Schräd.) Nees (Poaceae)	<i>Diabrotica longicornis</i> (Say), <i>D. virgifera</i> LeConte
<i>Eragrostis mexicana</i> (Hornem.) Link (Poaceae)	<i>Diabrotica virgifera</i> LeConte
<i>Eragrostis pectinacea</i> (Michx.) Nees (Poaceae)	<i>Chaetocnema pulicaria</i> Melsheimer
<i>Eragrostis trichodes</i> (Nutt.) A. Wood. (Poaceae)	<i>Diabrotica virgifera</i> LeConte
<i>Erechtites arguta</i> DC. (Asteraceae)	<i>Longitarsus jacobaeae</i> (Waterhouse)
<i>Erechtites hieracifolia</i> (L.) Raf. ex DC. (Asteraceae)	<i>Altica carinata</i> Germar, <i>A. ignita</i> Illiger, <i>Epitrix fasciata</i> Blatchley, <i>Longitarsus jacobaeae</i> (Waterhouse), <i>Systema frontalis</i> (Fabricius)
<i>Eremopyrum cristatum</i> (L.) Willk. & Lange (Poaceae)	<i>Psylliodes cucullatus</i> (Illiger)
<i>Erica</i> sp. (Ericaceae)	<i>Pachybrachis hybridus</i> Suffrian
<i>Ericameria ericoides</i> (Less.) Jeps. (Asteraceae)	<i>Diachus auratus</i> (Fabricius)
<i>Ericameria nauseosa</i> (Pall. ex Pursh) Nesom & Baird (Asteraceae)	<i>Cryptocephalus amatus</i> Haldeman, <i>C. cerinus</i> White, <i>C. confluentus</i> Say, <i>C. spurcus</i> LeConte, <i>Diabrotica undecimpunctata</i> Mannerheim, <i>Disonycha latifrons</i> Schaeffer, <i>D. punctigera</i> (LeConte), <i>Exema conspersa</i> (Mannerheim), <i>Glyptina atriventris</i> Horn, <i>Monoxia consputa</i> (LeConte), <i>M. debilis</i> LeConte, <i>M. sordida</i> (LeConte), <i>Pachybrachis analis</i> LeConte, <i>P. caelatus</i> LeConte, <i>P. marmoratus</i> Jacoby, <i>P. mercurialis</i> Fall, <i>P. minor</i> Bowditch, <i>P. vacillatus</i> Fall, <i>P. vau</i> Fall, <i>Phyllotreta albionica</i> (LeConte), <i>Systema blanda</i> Melsheimer, <i>S. laevis</i> Blake, <i>Trirhabda confusa</i> Blake, <i>T. convergens</i> LeConte, <i>T. lewisii</i> Crotch, <i>T. manisi</i> Hogue, <i>T. nitidicollis</i> LeConte
<i>Ericameria pinifolia</i> (A. Gray) H. M. Hall (Asteraceae)	<i>Exema conspersa</i> (Mannerheim)
<i>Erigenia bulbosa</i> (Michx.) Nutt. (Apiaceae)	<i>Acalymma vittatum</i> (Fabricius)
<i>Erigeron annuus</i> (L.) Pers. (Asteraceae)	<i>Calligrapha praecelsis</i> (Rogers), <i>Cassida rubiginosa</i> Müller
<i>Erigeron canadensis</i> L. (Asteraceae)	<i>Altica marevagans</i> Horn, <i>Epitrix cucumeris</i> (Harris), <i>E. fasciata</i> Blatchley, <i>Systema blanda</i> Melsheimer, <i>S. hudsonias</i> (Forster)
<i>Erigeron philadelphicus</i> L. (Asteraceae)	<i>Diabrotica undecimpunctata</i> Mannerheim,

<i>Systema hudsonias</i> (Forster)	
<i>Erigeron quercifolius</i> Lam. (Asteraceae)	<i>Exema canadensis</i> Pierce
<i>Erigeron ramosus</i> Raf. (Asteraceae)	<i>Brachypnoea convexa</i> (Say), <i>Chaetocnema pinguis</i> LeConte
<i>Erigeron spathulatus</i> Vahl. (Asteraceae)	(see <i>Conyza apurensis</i> Kunth)
<i>Erigeron</i> sp. (Asteraceae)	<i>Agroiconota bivittata</i> (Say), <i>Brachycoryna melsheimeri</i> (Crotch), <i>Cryptocephalus dorsatus</i> White, <i>C. venustus</i> Fabricius, <i>Diabrotica barberi</i> Smith & Lawrence, <i>Pachybrachis vestigialis</i> Fall, <i>Phyllotreta zimmermanni</i> (Crotch), <i>Smaragdina militaris</i> (LeConte), <i>Triarius melanolomatus</i> (Blake)
<i>Eriobotrya japonica</i> (Thunb.) Lindl. (Rosaceae)	<i>Acalymma trivittatum</i> (Mannerheim), <i>Diabrotica undecimpunctata</i> Mannerheim, <i>Monocesta coryli</i> (Say)
<i>Eriocaulon compressum</i> Lam. (Eriocaulaceae)	<i>Donacia liebecki</i> Schaeffer
<i>Eriochloa gracilis</i> (E. P. N. Fourn.) A. Hitchc. (Poaceae)	<i>Glyphuroplata nigella</i> (Weise)
<i>Eriodictyon angustifolium</i> Nutt. (Hydrophyllaceae)	<i>Trirhabda eriodictyonis</i> Fall
<i>Eriodictyon californicum</i> (Hook. & Arn.) J. Torr. (Hydrophyllaceae)	<i>Hemiglyptus basalis</i> (Crotch), <i>Trirhabda diducta</i> Horn, <i>T. eriodictyonis</i> Fall
<i>Eriodictyon crassifolium</i> Benth. (Hydrophyllaceae)	<i>Trirhabda diducta</i> Horn, <i>T. eriodictyonis</i> Fall
<i>Eriodictyon tomentosum</i> Benth. (Hydrophyllaceae)	<i>Trirhabda diducta</i> Horn
<i>Eriodictyon</i> sp. (Hydrophyllaceae)	<i>Colaspidea smaragdula</i> (LeConte), <i>Trirhabda flavolimbata</i> (Mannerheim), <i>Tymnes oregonensis</i> (Crotch)
<i>Eriogonum effusum</i> Nutt. (Polygonaceae)	<i>Coleothorpa axillaris</i> (LeConte)
<i>Eriogonum fasciculatum</i> Benth. (Polygonaceae)	<i>Coscinoptera aeneipennis</i> (LeConte), <i>Diachus auratus</i> (Fabricius), <i>Monoxia debilis</i> LeConte
<i>Eriogonum gracile</i> Benth. (Polygonaceae)	<i>Coscinoptera aeneipennis</i> (LeConte)
<i>Eriogonum inflatum</i> J. Torr. & Frem. (Polygonaceae)	<i>Coleorozena vittata</i> (LeConte), <i>Coleothorpa axillaris</i> (LeConte), <i>Pachybrachis connexus</i> Fall, <i>Synetocephalus crassicornis</i> (Fall)
<i>Eriogonum latifolium</i> J. E. Sm. (Polygonaceae)	<i>Pachybrachis hybridus</i> Suffrian
<i>Eriogonum microthecum</i> Nutt. (Polygonaceae)	<i>Neochlamisus moestificus</i> (Lacordaire), <i>Pachybrachis quadratus</i> Fall
<i>Eriogonum racemosum</i> Nutt. (Polygonaceae)	<i>Neochlamisus moestificus</i> (Lacordaire)
<i>Eriogonum wrightii</i> J. Torr. ex Benth. (Polygonaceae)	<i>Neochlamisus moestificus</i> (Lacordaire)
<i>Eriogonum</i> sp. (Polygonaceae)	<i>Androlyperus incisus</i> Schaeffer, <i>Chaetocnema confinis</i> Crotch, <i>Colaspidea smaragdula</i> (LeConte), <i>Coleorozena alicula</i> (Fall), <i>C. pilatei</i> (Lacordaire), <i>Coleothorpa mucorea</i> (LeConte), <i>Cryptocephalus andrewsi</i> Riley & Gilbert, <i>C. pallidicinctus</i> Fall, <i>C. sanguinicollis</i> Suffrian, <i>C. triundulatus</i> White, <i>Diabrotica undecimpunctata</i> Mannerheim, <i>Margaridisa atriventris</i> (Melsheimer), <i>Phyllotreta albionica</i> (LeConte), <i>Plateumaris nitida</i> (Germar), <i>Pseudoluperus longulus</i> (LeConte), <i>Saxinis saucia</i> LeConte, <i>S. sonorensis</i> Jacoby, <i>S. subpubescens</i> Schaeffer, <i>Systema blanda</i> Melsheimer, <i>Trirhabda luteocincta</i> (LeConte)
<i>Eriophyllum confertifolium</i> (DC.) A. Gray (Asteraceae)	<i>Androlyperus fulvus</i> Crotch
<i>Erodium cicutarium</i> (L.) L'Hér. ex Aiton (Geraniaceae)	<i>Chaetocnema opulenta</i> Horn
<i>Eruca sativa</i> P. Mill. (Brassicaceae)	(see <i>Eruca vesicaria</i> (L.) Cav.)
<i>Eruca vesicaria</i> (L.) Cav. (Brassicaceae)	<i>Phaedon cyanescens</i> Stål, <i>Psylliodes chrysocephalus</i> (Linnaeus), <i>Zygogramma malvae</i> (Stål), <i>Z. piceicollis</i> (Stål), <i>Z. signatipennis</i> (Stål)
<i>Eruca</i> sp. (Brassicaceae)	<i>Phyllotreta cruciferae</i> (Goeze), <i>P. striolata</i> (Fabricius)
<i>Erucaria boveana</i> Cosson (Brassicaceae)	<i>Phyllotreta cruciferae</i> (Goeze), <i>Psylliodes chrysocephalus</i> (Linnaeus)
<i>Erucaria hispanica</i> (L.) Druce (Brassicaceae)	<i>Phyllotreta cruciferae</i> (Goeze), <i>Psylliodes chrysocephalus</i> (Linnaeus)
<i>Erucastrum elatum</i> O. E. Schulz (Brassicaceae)	<i>Psylliodes chrysocephalus</i> (Linnaeus)
<i>Erucastrum gallicum</i> (Willd.) O. E. Schulz (Brassicaceae)	<i>Entomoscelis americana</i> Brown, <i>Phyllotreta cruciferae</i> (Goeze)
<i>Eryngium leavenworthii</i> T. & G. (Apiaceae)	<i>Metrioidea popenoei</i> (Blake)
<i>Erysimum argillosum</i> (Greene) Rydb. (Brassicaceae)	<i>Scelolyperus flavicollis</i> (LeConte)
<i>Erysimum asperum</i> (Nutt.) DC. (Brassicaceae)	<i>Entomoscelis americana</i> Brown, <i>Phyllotreta ramosa</i> (Crotch)
<i>Erysimum canescens</i> Roth (Brassicaceae)	<i>Phyllotreta cruciferae</i> (Goeze), <i>P. undulata</i> (Kutschera)

Leaf Beetles Listed by Plants

<i>Erysimum capitatum</i> (Dougl. ex Hook.) Greene (Brassicaceae)	<i>Scelolyperus flavicollis</i> (LeConte)
<i>Erysimum cheiranthoides</i> L. (Brassicaceae)	<i>Entomoscelis americana</i> Brown, <i>Phyllotreta cruciferae</i> (Goeze), <i>P. striolata</i> (Fabricius), <i>P. undulata</i> (Kutschera), <i>Psylliodes napi</i> (Fabricius), <i>P. punctulatus</i> Melsheimer
<i>Erysimum cheiri</i> (L.) Crantz (Brassicaceae)	<i>Entomoscelis americana</i> Brown, <i>Phyllotreta ramosa</i> (Crotch), <i>P. striolata</i> (Fabricius)
<i>Erysimum crassipes</i> Fisch. & Mey. (Brassicaceae)	<i>Psylliodes chrysocephalus</i> (Linnaeus)
<i>Erysimum cuspidatum</i> (Bieb.) DC. (Brassicaceae)	<i>Psylliodes chrysocephalus</i> (Linnaeus)
<i>Erysimum goniocaulon</i> Boiss. (Brassicaceae)	<i>Psylliodes chrysocephalus</i> (Linnaeus)
<i>Erysimum inconspicuum</i> (Wats.) MacMill. (Brassicaceae)	<i>Entomoscelis americana</i> Brown
<i>Erysimum parviflorum</i> Nutt. (Brassicaceae)	(see <i>Erysimum inconspicuum</i> (Wats.) MacMill.)
<i>Erysimum repandum</i> L. (Brassicaceae)	<i>Erynephala puncticollis</i> (Say), <i>Psylliodes punctulatus</i> Melsheimer
<i>Erysimum verrucosum</i> Boiss. & Gaill. (Brassicaceae)	<i>Phyllotreta punctulata</i> (Marshall), <i>Psylliodes chrysocephalus</i> (Linnaeus)
<i>Erysimum</i> sp. (Brassicaceae)	<i>Phyllotreta pusilla</i> Horn
<i>Erythrina flabelliformis</i> Kearney (Fabaceae)	<i>Neobrotica pluristicta</i> Fall
<i>Erythrina herbacea</i> L. (Fabaceae)	<i>Diabrotica undecimpunctata</i> Mannerheim
<i>Erythrina</i> sp. (Fabaceae)	<i>Brucita marmorata</i> (Jacoby)
<i>Eschscholzia californica</i> Cham. (Papaveraceae)	<i>Diabrotica undecimpunctata</i> Mannerheim
<i>Eubatus</i> sp. (Rosaceae)	(see <i>Rubus</i>)
<i>Eucalyptus</i>	(see <i>Eucalyptus</i>)
<i>Eucalyptus camaldulensis</i> Dehnh. (Myrtaceae)	<i>Trachymela sloanei</i> (Blackburn)
<i>Eucalyptus globulus</i> Labill. (Myrtaceae)	<i>Chrysophtharta m-fuscum</i> (Boheman)
<i>Eucalyptus</i> sp. (Myrtaceae)	<i>Colaspis favosa</i> Say, <i>C. pseudofavosa</i> Riley, <i>Cryptocephalus marginicollis</i> Suffrian, <i>C. nigrocinctus</i> Suffrian, <i>Metachroma adustum</i> Suffrian
<i>Euchlaena mexicana</i> Schrad. (Poaceae)	(see <i>Zea mays</i> L.)
<i>Euchlaena</i> sp. (Poaceae)	(see <i>Zea</i>)
<i>Euclidium syriacum</i> (L.) R. Br. (Brassicaceae)	<i>Phyllotreta cruciferae</i> (Goeze), <i>Psylliodes punctulatus</i> Melsheimer
<i>Eugenia foetida</i> Pers. (Myrtaceae)	<i>Metachroma testaceum</i> Blatchley
<i>Eugenia uniflora</i> L. (Myrtaceae)	<i>Cryptocephalus trizonatus</i> Suffrian, <i>Rhabdopterus bowditchi</i> Barber
<i>Eugenia</i> sp. (Myrtaceae)	<i>Miraces modesta</i> (Horn), <i>M. placida</i> (Horn)
<i>Euonymus americanus</i> L. (Celastraceae)	<i>Capraita obsidiana</i> (Fabricius)
<i>Euonymus atropurpureus</i> Jacq. (Celastraceae)	<i>Cerotoma trifurcata</i> (Forster), <i>Disonycha discoidea</i> (Fabricius), <i>Lexiphanes saponatus</i> (Fabricius), <i>Pachybrachis atomarius</i> (Melsheimer), <i>Rhabdopterus picipes</i> (Olivier)
<i>Euonymus obovatus</i> Nutt. (Celastraceae)	<i>Disonycha discoidea</i> (Fabricius)
<i>Eupatorium adenophorum</i> Spreng. (Asteraceae)	<i>Disonycha figurata</i> Jacoby, <i>Exema conspersa</i> (Mannerheim)
<i>Eupatorium ageratoides</i> L. f. (Asteraceae)	<i>Baliosus nervosus</i> (Panzer), <i>Luperaltica senilis</i> (Say), <i>Paratriarius dorsatus</i> (Say), <i>Sumitrosis inaequalis</i> (Weber)
<i>Eupatorium album</i> L. (Asteraceae)	<i>Epitrix fasciata</i> Blatchley, <i>Exema dispar</i> Lacordaire
<i>Eupatorium azureum</i> DC. (Asteraceae)	<i>Pentispa distincta</i> (Baly)
<i>Eupatorium cannabinum</i> L. (Asteraceae)	<i>Longitarsus flavicornis</i> (Stephens), <i>L. rubiginosus</i> (Foudras), <i>L. succineus</i> (Foudras)
<i>Eupatorium capillifolium</i> (Lam.) Small (Asteraceae)	<i>Brachypnoea clypealis</i> (Horn), <i>B. puncticollis</i> (Say), <i>Longitarsus cotulus</i> Blatchley, <i>Neolema sexpunctata</i> (Olivier), <i>Ophraella notata</i> (Fabricius)
<i>Eupatorium collinum</i> DC. (Asteraceae)	<i>Octotoma scabripennis</i> Guérin-Ménéville
<i>Eupatorium fistulosum</i> Barratt (Asteraceae)	<i>Diabrotica cristata</i> (Harris), <i>Exema dispar</i> Lacordaire, <i>Systena hudsonias</i> (Forster)
<i>Eupatorium havanense</i> Kunth in H. B. K. (Asteraceae)	<i>Paria quadriguttata</i> LeConte
<i>Eupatorium hyssopifolium</i> L. (Asteraceae)	<i>Ophraella notata</i> (Fabricius)
<i>Eupatorium lasium</i> Rob. (Asteraceae)	<i>Zygogramma piceicollis</i> (Stål)
<i>Eupatorium leptophyllum</i> DC. (Asteraceae)	<i>Cryptocephalus bispinus</i> Suffrian

- Eupatorium maculatum* L. (Asteraceae) *Exema dispar* Lacordaire, *Ophraella notata* (Fabricius), *Sumitrosis inaequalis* (Weber)
- Eupatorium odoratum* L. (Asteraceae) (see *Chromolaena odorata* (L.) R. M. King & H. Rob.)
- Eupatorium perfoliatum* L. (Asteraceae) *Calligrapha californica* Linell, *Capraita thyamoides* (Crotch), *Cerotoma trifurcata* (Forster), *Diabrotica cristata* (Harris), *Leptinotarsa decemlineata* (Say), *Longitarsus acutipennis* Blatchley, *Ophraella artemisiae* Futuyma, *O. communis* LeSage, *O. conferta* (LeConte), *O. notata* (Fabricius), *O. notulata* (Fabricius), *Sumitrosis inaequalis* (Weber)
- Eupatorium purpureum* L. (Asteraceae) *Lexiphanes saponatus* (Fabricius), *Systema frontalis* (Fabricius), *S. hudsonias* (Forster)
- Eupatorium rotundifolium* L. (Asteraceae) *Ophraella notata* (Fabricius)
- Eupatorium rugosum* Houtt. (Asteraceae) *Baliosus nervosus* (Panzer), *Diabrotica cristata* (Harris), *Leptinotarsa decemlineata* (Say), *Paratriarius dorsatus* (Say), *Sumitrosis inaequalis* (Weber), *Systema hudsonias* (Forster)
- Eupatorium serotinum* Michx. (Asteraceae) *Diabrotica undecimpunctata* Mannerheim, *Longitarsus testaceus* (Melsheimer), *Ophraella notata* (Fabricius)
- Eupatorium urticifolium* L. f. (Asteraceae) *Sumitrosis inaequalis* (Weber)
- Eupatorium wrightii* A. Gray (Asteraceae) *Oulema variabilis* White
- Eupatorium* sp. (Asteraceae) *Bassaricus brunnipes* (Olivier), *Deloyala guttata* (Olivier), *Epitrix brevis* Schwarz, *E. hirtipennis* (Melsheimer), *Exema neglecta* Blatchley, *Syphrea nana* (Crotch), *Zygogramma suturalis* (Fabricius)
- Euphorbia amygdaloides* L. (Euphorbiaceae) *Aphthona cyparissiae* (Koch), *A. czwalinae* Weise, *A. flava* Guillebau, *A. lacertosa* (Rosenhauer), *A. nigriscutis* Foudras
- Euphorbia antisiphilitica* Zucc. (Euphorbiaceae) *Aphthona abdominalis* (Duftschmid), *A. flava* Guillebau, *A. lacertosa* (Rosenhauer), *A. nigriscutis* Foudras, *Kuschelina laeta* (Perbosc)
- Euphorbia bicolor* Engelm. & Gray (Euphorbiaceae) *Glyptina texana* (Crotch)
- Euphorbia bifurcata* Engelm. (Euphorbiaceae) *Glyptina nivalis* Horn
- Euphorbia chamaesyce* L. (Euphorbiaceae) (see *Chamaesyce prostrata* (Aiton) Small)
- Euphorbia characias* L. (Euphorbiaceae) *Aphthona abdominalis* (Duftschmid)
- Euphorbia corollata* L. (Euphorbiaceae) *Aphthona abdominalis* (Duftschmid), *A. cyparissiae* (Koch), *A. flava* Guillebau, *A. lacertosa* (Rosenhauer), *A. nigriscutis* Foudras, *Glyptina bicolor* Horn
- Euphorbia cyathophora* Murray (Euphorbiaceae) *Glyptina cyanipennis* (Crotch), *G. nivalis* Horn
- Euphorbia cyparissias* L. (Euphorbiaceae) *Aphthona abdominalis* (Duftschmid), *A. cyparissiae* (Koch), *A. czwalinae* Weise, *A. flava* Guillebau, *A. lacertosa* (Rosenhauer), *A. nigriscutis* Foudras, *Longitarsus succineus* (Foudras)
- Euphorbia dentata* Michx. (Euphorbiaceae) *Glyptina cyanipennis* (Crotch), *G. nivalis* Horn
- Euphorbia discoidalis* Chapm. (Euphorbiaceae) *Aphthona lacertosa* (Rosenhauer)
- Euphorbia epithymoides* L. (Euphorbiaceae) *Aphthona cyparissiae* (Koch), *A. flava* Guillebau, *A. nigriscutis* Foudras
- Euphorbia esula* L. (Euphorbiaceae) *Aphthona abdominalis* (Duftschmid), *A. cyparissiae* (Koch), *A. czwalinae* Weise, *A. flava* Guillebau, *A. lacertosa* (Rosenhauer), *A. nigriscutis* Foudras, *Glyptina atriventris* Horn, *Phyllotreta undulata* (Kutschera), *Psylliodes napi* (Fabricius)
- Euphorbia gerardiana* Jacq. (Euphorbiaceae) (see *Euphorbia seguieriana* Neck.)
- Euphorbia gracilis* Elliott (Euphorbiaceae) *Aphthona nigriscutis* Foudras
- Euphorbia helioscopia* L. (Euphorbiaceae) *Aphthona abdominalis* (Duftschmid)
- Euphorbia heterophylla* L. (Euphorbiaceae) *Aphthona cyparissiae* (Koch), *A. lacertosa* (Rosenhauer), *Glyptina cyanipennis* (Crotch)
- Euphorbia incisa* Engelm. (Euphorbiaceae) *Aphthona flava* Guillebau, *A. lacertosa* (Rosenhauer)
- Euphorbia lathyris* L. (Euphorbiaceae) *Agelastica alni* (Linnaeus), *Aphthona abdominalis* (Duftschmid), *A. cyparissiae* (Koch), *A. czwalinae* Weise, *A. flava* Guillebau, *A. lacertosa* (Rosenhauer), *A. nigriscutis* Foudras
- Euphorbia lucida* Waldst. & Kit. (Euphorbiaceae) *Aphthona abdominalis* (Duftschmid), *A. czwalinae* Weise, *A. flava* Guillebau, *A. lacertosa* (Rosenhauer)
- Euphorbia maculata* L. (Euphorbiaceae) *Aphthona abdominalis* (Duftschmid), *A. lacertosa* (Rosenhauer), *A. nigriscutis* Foudras

Leaf Beetles Listed by Plants

- Euphorbia marginata* Pursh (Euphorbiaceae) *Altica foliaceae* LeConte, *Aphthona abdominalis* (Duftschmid), *A. czwalinae* Weise, *A. lacertosa* (Rosenhauer), *A. nigriscutis* Foudras, *Chelymorpha cassidea* (Fabricius), *Diabrotica longicornis* (Say), *D. undecimpunctata* Mannerheim, *Glyptina texana* (Crotch)
- Euphorbia milii* Ch. des Moulins (Euphorbiaceae) (see *Euphorbia splendens* Bojer ex Hook.)
- Euphorbia myrsinites* L. (Euphorbiaceae) *Aphthona cyparissiae* (Koch), *A. czwalinae* Weise, *A. lacertosa* (Rosenhauer), *A. nigriscutis* Foudras
- Euphorbia oblongata* Griseb. (Euphorbiaceae) *Aphthona cyparissiae* (Koch), *A. flava* Guillebau, *A. lacertosa* (Rosenhauer), *A. nigriscutis* Foudras
- Euphorbia obtusata* Pursh (Euphorbiaceae) *Glyptina brunnea* Horn, *G. ferruginea* Blatchley
- Euphorbia palmeri* Engelm. ex S. Watson (Euphorbiaceae) *Aphthona flava* Guillebau
- Euphorbia pannonica* Host. (Euphorbiaceae) *Aphthona flava* Guillebau, *A. lacertosa* (Rosenhauer), *A. nigriscutis* Foudras
- Euphorbia paralias* L. (Euphorbiaceae) *Aphthona abdominalis* (Duftschmid)
- Euphorbia pepus* L. (Euphorbiaceae) *Aphthona abdominalis* (Duftschmid), *A. cyparissiae* (Koch), *A. czwalinae* Weise, *A. flava* Guillebau, *A. lacertosa* (Rosenhauer), *A. nigriscutis* Foudras
- Euphorbia polychroma* Kern. (Euphorbiaceae) (see *Euphorbia epithymoides* L.)
- Euphorbia preslii* Guss. (Euphorbiaceae) *Glyptina spuria* LeConte
- Euphorbia pseudochamaesyce* Fisch., Avé-Lall. (Euphorbiaceae) *Aphthona abdominalis* (Duftschmid)
- Euphorbia pulcherrima* Willd. ex Klotzsch (Euphorbiaceae) *Omophoita cyanipennis* (Fabricius)
- Euphorbia purpurea* (Raf.) Fern. (Euphorbiaceae) *Aphthona flava* Guillebau
- Euphorbia robusta* (Engelm.) Small (Euphorbiaceae) *Aphthona flava* Guillebau
- Euphorbia salicifolia* Host (Euphorbiaceae) *Aphthona lacertosa* (Rosenhauer)
- Euphorbia seguieriana* Neck. (Euphorbiaceae) *Aphthona abdominalis* (Duftschmid), *A. cyparissiae* (Koch), *A. czwalinae* Weise, *A. flava* Guillebau, *A. lacertosa* (Rosenhauer), *A. nigriscutis* Foudras
- Euphorbia serpyllifolia* Persoon (Euphorbiaceae) *Aphthona abdominalis* (Duftschmid)
- Euphorbia spathulata* Lam. (Euphorbiaceae) *Aphthona flava* Guillebau
- Euphorbia splendens* Bojer ex Hook. (Euphorbiaceae) *Aphthona abdominalis* (Duftschmid), *A. cyparissiae* (Koch), *A. flava* Guillebau, *A. lacertosa* (Rosenhauer), *A. nigriscutis* Foudras
- Euphorbia stepposa* Zoz (Euphorbiaceae) *Aphthona flava* Guillebau, *A. lacertosa* (Rosenhauer)
- Euphorbia stricta* L. (Euphorbiaceae) *Aphthona abdominalis* (Duftschmid)
- Euphorbia supina* Rafinesque Schmaltz (Euphorbiaceae) *Aphthona abdominalis* (Duftschmid)
- Euphorbia telephioides* Chapm. (Euphorbiaceae) *Aphthona flava* Guillebau
- Euphorbia tirucalli* L. (Euphorbiaceae) *Aphthona abdominalis* (Duftschmid), *A. cyparissiae* (Koch), *A. flava* Guillebau, *A. lacertosa* (Rosenhauer), *A. nigriscutis* Foudras
- Euphorbia triangularis* Desfontaines (Euphorbiaceae) *Aphthona abdominalis* (Duftschmid)
- Euphorbia trigona* Haworth (Euphorbiaceae) *Aphthona abdominalis* (Duftschmid)
- Euphorbia virgata* Waldst. & Kit. (Euphorbiaceae) *Aphthona abdominalis* (Duftschmid), *A. cyparissiae* (Koch), *A. czwalinae* Weise, *A. flava* Guillebau, *A. lacertosa* (Rosenhauer), *A. nigriscutis* Foudras, *Chrysolina fastuosa* (Scopoli)
- Euphorbia* sp. (Euphorbiaceae) *Altica corni* Woods, *Chaetocnema ectypa* Horn, *Diabrotica virgifera* LeConte
- European cranberrybush viburnum (see *Viburnum opulus* L.)
- European elm (see *Ulmus minor* Mill.)
- European plum (see *Prunus domestica* L.)
- Eurotia lanata* (Pursh) Moq. (Chenopodiaceae) *Phyllotreta oregonensis* (Crotch)
- Eurya japonica* Thunb. (Theaceae) *Demotina modesta* Baly
- Eurybia divaricata* (L.) Nesom (Asteraceae) *Baliosus nervosus* (Panzer), *Capraita subvittata* (Horn), *Sumitrosis inaequalis* (Weber)
- Eurybia macrophylla* (L.) Cass. (Asteraceae) *Capraita subvittata* (Horn), *Ophraella pilosa* LeSage
- Euthamia graminifolia* (L.) Nutt. (Asteraceae) *Brachypnoea margaretae* (Schultz), *Exema canadensis* Pierce, *Microrhopala vittata* (Fabricius), *Ophraella conferta* (LeConte), *Paria thoracica* (Melsheimer), *Sumitrosis inaequalis* (Weber), *Systema frontalis* (Fabricius), *Trirhabda borealis* Blake, *T. virgata* LeConte

<i>Euthamia gymnospermoides</i> (Greene) Fernald (Asteraceae)	<i>Exema byersi</i> Karren
<i>Eutrema wasabi</i> (Sieb.) Maxim. (Brassicaceae)	<i>Phyllotreta striolata</i> (Fabricius)
Evening-primrose	(see <i>Oenothera</i>)
<i>Faba</i> sp. (Fabaceae)	(see <i>Vicia</i>)
<i>Fagopyrum esculentum</i> Moench (Polygonaceae)	<i>Chaetocnema concinna</i> (Marsham), <i>Epitrix cucumeris</i> (Harris), <i>Gastrophysa cyanea</i> Melsheimer, <i>G. polygoni</i> (Linnaeus), <i>Margaridisa atriventris</i> (Melsheimer), <i>Phyllotreta cruciferae</i> (Goeze)
<i>Fagopyrum sagittatum</i> Gilib. (Polygonaceae)	<i>Chaetocnema concinna</i> (Marsham)
<i>Fagopyrum tataricum</i> (L.) Gaertn. (Polygonaceae)	<i>Chaetocnema concinna</i> (Marsham)
<i>Fagopyrum</i> sp. (Polygonaceae)	<i>Chaetocnema confinis</i> Crotch, <i>Diabrotica undecimpunctata</i> Mannerheim, <i>Systema frontalis</i> (Fabricius)
<i>Fagus grandifolia</i> Ehrh. (Fagaceae)	<i>Altica chalybea</i> Illiger, <i>Capraita circumdata</i> (Randall), <i>Odontota dorsalis</i> (Thunberg), <i>Phyllotreta zimmermanni</i> (Crotch), <i>Syneta ferruginea</i> (Germar), <i>Xanthogaleruca luteola</i> (Müller), <i>Xanthonia decemnotata</i> (Say), <i>X. villosula</i> (Melsheimer)
<i>Fagus</i> sp. (Fagaceae)	<i>Derocrepis erythropus</i> (Melsheimer)
<i>Falcata comosa</i> (L.) Kuntze (Fabaceae)	(see <i>Amphicarpaea bracteata</i> (L.) Fern.)
<i>Fallopia baldschuanicum</i> (Regel) Holub. (Polygonaceae)	(see <i>Polygonum baldschuanicum</i> Regel)
<i>Fallugia paradoxa</i> (D. Don) Endl. ex Torr. in Emory (Rosaceae)	<i>Altica oblitterata</i> LeConte, <i>Metrioidea varicornis</i> (LeConte), <i>Triarius vittipennis</i> (Horn)
<i>Fallugia</i> sp. (Rosaceae)	<i>Coleothorpa axillaris</i> (LeConte)
False-flax	(see <i>Camelina</i>)
False forget-me-not	(see <i>Brunnera</i> , <i>Hackelia</i>)
False indigo	(see <i>Amorpha</i> , <i>Baptisia</i>)
Fescue	(see <i>Festuca</i> , <i>Vulpia</i>)
Fescue grass	(see <i>Festuca</i> , <i>Vulpia</i>)
<i>Festuca arundinacea</i> Schreb. (Poaceae)	<i>Oulema melanopus</i> (Linnaeus)
<i>Festuca elatior</i> L. (Poaceae)	<i>Systema blanda</i> Melsheimer
<i>Festuca gigantea</i> (L.) D. Vill. (Poaceae)	<i>Oulema melanopus</i> (Linnaeus)
<i>Festuca ovina</i> L. (Poaceae)	<i>Oulema melanopus</i> (Linnaeus), <i>Psylliodes cucullatus</i> (Illiger)
<i>Festuca rubra</i> L. (Poaceae)	<i>Chaetocnema protensa</i> LeConte, <i>Oulema melanopus</i> (Linnaeus)
<i>Festuca sclerophylla</i> Bois. & Hohen. (Poaceae)	<i>Oulema melanopus</i> (Linnaeus)
<i>Festuca</i> sp. (Poaceae)	<i>Chaetocnema pulicaria</i> Melsheimer, <i>Diabrotica undecimpunctata</i> Mannerheim, <i>Epitrix hirtipennis</i> (Melsheimer), <i>Neolema sexpunctata</i> (Olivier)
Fetid buckeye	(see <i>Aesculus glabra</i> Willd.)
Fetterbush	(see <i>Andromeda</i> , <i>Lyonia</i> , <i>Pieris</i> , etc.)
<i>Ficus carica</i> L. (Moraceae)	<i>Cryptocephalus trizonatus</i> Suffrian, <i>Omphota cyanipennis</i> (Fabricius)
<i>Ficus citrifolia</i> P. Mill. (Moraceae)	<i>Oomorphus floridanus</i> Horn
<i>Ficus elastica</i> Roxburg (Moraceae)	<i>Aphthona abdominalis</i> (Duftschmid)
<i>Ficus stahlii</i> Warb. (Moraceae)	<i>Cryptocephalus nigrocinctus</i> Suffrian
<i>Ficus</i> sp. (Moraceae)	<i>Charidotella sexpunctata</i> (Fabricius), <i>Deloyala guttata</i> (Olivier), <i>Diabrotica balteata</i> LeConte, <i>Physonota calochroma</i> (Blake)
Field bean	(see <i>Phaseolus vulgaris</i> L.)
Field corn	(see <i>Zea mays</i> L.)
Field pea	(see <i>Pisum sativum</i> L., <i>Vigna unguiculata</i> Clav.)
Fig	(see <i>Ficus</i>)
Filbert	(see <i>Corylus</i>)
<i>Filipendula rubra</i> (Hill) Robinson (Rosaceae)	<i>Neogalerucella californiensis</i> (Linnaeus)
<i>Filipendula ulmaria</i> (L.) Maxim. (Rosaceae)	<i>Galerucella nymphaeae</i> (Linnaeus)
<i>Fimbristylis castanea</i> (Michx.) M. Vahl. (Cyperaceae)	<i>Chaetocnema blatchleyi</i> Csiki, <i>C. rileyi</i> White
Fir	(see <i>Abies</i>)
Fireweed	(see <i>Chamerion angustifolium</i> (L.) Holub)
<i>Flacourtia indica</i> (Burm. f.) Merr. (Flacourtiaceae)	<i>Chrysomela scripta</i> Fabricius
<i>Flaveria linearis</i> Lag. (Asteraceae)	<i>Chaetocnema brunnescens</i> Horn
Flax	(see <i>Linum</i>)
Fleabane	(see <i>Erigeron</i>)

Leaf Beetles Listed by Plants

- Flixweed (see *Descurainia sophia* (L.) Webb in Engler & Prantl)
- Flourensia cernua* DC. (Asteraceae) *Coleorozena lecontei* (Crotch), *Cryptocephalus confluentus* Say, *C. spurcus* LeConte, *Diabrotica undecimpunctata* Mannerheim, *Exema conspersa* (Mannerheim), *Glyptina brunnea* Horn, *Microrhopala rubrolineata* (Mannerheim), *Pachybrachis caelatus* LeConte, *P. fuscipes* Fall, *P. uteanus* Fall, *Spintherophyta globosa* (Olivier), *Systema laevis* Blake, *Zygogramma conjuncta* (Rogers), *Z. tortuosa* (Rogers)
- Forestiera ligustrina* (Michx.) Poir. (Oleaceae) *Capraita sexmaculata* (Illiger)
- Forestiera porulosa* (Michx.) Poir. (Oleaceae) *Argopistes scyrtoides* LeConte
- Forestiera segregata* (Jacq.) Krug & Urban (Oleaceae) *Argopistes scyrtoides* LeConte
- Forsythia (see *Forsythia*)
- Forsythia* sp. (Oleaceae) *Systema frontalis* (Fabricius)
- Four o'clock (see *Mirabilis*)
- Foxglove (see *Digitalis* and similar genera)
- Foxtail grass (see *Alopecurus*, *Andropogon*, *Hordeum*, *Setaria*)
- Fragaria x ananassa* Duchn. (Rosaceae) *Galerucella nymphaeae* (Linnaeus), *Neochlamisus fragariae* (Brown), *Neogalerucella californiensis* (Linnaeus)
- Fragaria bracteata* Heller (Rosaceae) (see *Fragaria vesca* L.)
- Fragaria chiloensis* (L.) Duchn. (Rosaceae) *Altica foliaceae* LeConte, *A. litigata* Fall, *A. probata* Fall, *Chaetocnema confinis* Crotch, *C. denticulata* (Illiger), *C. pulicaria* Melsheimer, *Disonycha fumata* (LeConte), *Epitrix cucumeris* (Harris), *E. fuscula* Crotch, *Paria fragariae* Wilcox, *P. quadrinotata* (Say), *Phyllotreta striolata* (Fabricius), *Systema blanda* Melsheimer, *Timarcha cerdo* Stål, *T. intricata* Haldeman
- Fragaria vesca* L. (Rosaceae) *Colaspis brunnea* (Fabricius), *Graphops nebulosa* (LeConte), *G. pubescens* (Melsheimer), *Longitarsus luridus* (Scopoli), *Paria aterrima* (Olivier), *Timarcha cerdo* Stål, *T. intricata* Haldeman
- Fragaria virginiana* Mill. (Rosaceae) *Altica rosae* Woods, *A. ulmi* Woods, *Paria canella* (Fabricius), *P. quadrinotata* (Say), *P. thoracica* (Melsheimer), *Xanthonia villosula* (Melsheimer)
- Fragaria* sp. (Rosaceae) *Altica ignita* Illiger, *A. tombacina* Mannerheim, *Blepharida rhois* (Forster), *Brachypnoea puncticollis* (Say), *Chaetocnema concinna* (Marsham), *Chelymormpha cassidea* (Fabricius), *Colaspis hesperia* Blake, *Cryptocephalus castaneus* LeConte, *C. notatus* Fabricius, *C. sanguinicollis* Suffrian, *Diabrotica undecimpunctata* Mannerheim, *Diachus aeruginosus* LeConte, *D. auratus* (Fabricius), *Disonycha collata* (Fabricius), *Exema canadensis* Pierce, *E. dispar* Lacordaire, *Galeruca browni* Blake, *Graphops marcassita* (Crotch), *G. varians* LeConte, *Kuschelina petaurista* (Fabricius), *Lema trivittata* Say, *Longitarsus turbatus* Horn, *Metrioidea morula* (LeConte), *Pachybrachis nigricornis* (Say), *Paria scutellaris* (Notman), *P. sexnotata* (Say), *Phyllotreta ramosa* (Crotch), *P. zimmermanni* (Crotch), *Psylliodes punctulatus* Melsheimer, *Rhabdopterus picipes* (Olivier), *Scelolyperus varipes* (LeConte), *Syneta albida* LeConte, *Systema frontalis* (Fabricius)
- Fragrant sumach (see *Rhus aromatica* Ait.)
- Frankenia salina* (Molina) I. M. Johnston (Frankeniaceae) *Altica litigata* Fall
- Franseria acanthicarpa* (Hook.) Coville (Asteraceae) *Physonota arizonae* Schaeffer, *Physonota unipunctata* (Say)
- Franseria dumosa* A. Gray (Asteraceae) *Brachycoryna longula* Weise, *Trirhabda caduca* Horn
- Franseria tomentosa* A. Gray (Asteraceae) *Zygogramma exclamationis* (Fabricius)
- Franseria* sp. (Asteraceae) *Galeruca rudis* LeConte, *Ophraella communis* LeSage, *Pachybrachis hepaticus* (Melsheimer), *Systema blanda* Melsheimer
- Fraxinus americana* L. (Oleaceae) *Capraita circumdata* (Randall), *C. sexmaculata* (Illiger), *Chaetocnema confinis* Crotch, *Octotoma plicatula* (Fabricius), *Pachybrachis othomus* (Say), *Trichaltica scabricula* (Crotch)
- Fraxinus attenuata* Jones (Oleaceae) *Octotoma marginicollis* Horn
- Fraxinus berlandieriana* A. DC. (Oleaceae) *Capraita sexmaculata* (Illiger)
- Fraxinus greggii* Gray (Oleaceae) *Octotoma marginicollis* Horn
- Fraxinus nigra* Marsh. (Oleaceae) *Tricholochmaea decora* (Say)
- Fraxinus pennsylvanica* Marsh. (Oleaceae) *Capraita obsidiana* (Fabricius), *Diabrotica virgifera* LeConte, *Exema byersi* Karren, *Octotoma plicatula* (Fabricius), *Trichaltica scabricula* (Crotch)
- Fraxinus quadrangulata* Michx. (Oleaceae) *Capraita circumdata* (Randall), *Octotoma plicatula* (Fabricius), *Trichaltica scabricula* (Crotch)

<i>Fraxinus texensis</i> (Gray) Sarg. (Oleaceae)	<i>Trichaltica scabricula</i> (Crotch)
<i>Fraxinus velutina</i> Torr. (Oleaceae)	<i>Octotoma marginicollis</i> Horn
<i>Fraxinus viridis</i> Michx. (Oleaceae)	(see <i>Fraxinus pennsylvanica</i> Marsh.)
<i>Fraxinus</i> sp. (Oleaceae)	<i>Capraita quercata</i> (Fabricius), <i>C. scalaris</i> (Melsheimer), <i>Epitrix cucumeris</i> (Harris), <i>Odontota dorsalis</i> (Thunberg), <i>Strabala rufa</i> (Illiger), <i>Trichaltica tibialis</i> (Jacoby)
<i>Fremontodendron californicum</i> (Torr.) Cov. (Sterculiaceae)	<i>Scelolyperus torquatus</i> (LeConte)
<i>Fritillaria imperialis</i> L. (Liliaceae)	<i>Liliocerus lilii</i> (Scopoli)
<i>Fritillaria meleagris</i> L. (Liliaceae)	<i>Liliocerus lilii</i> (Scopoli)
Fuchsia	(see <i>Fuchsia</i>)
<i>Fuchsia</i> sp. (Onagraceae)	<i>Altica carinata</i> Germar, <i>A. litigata</i> Fall, <i>Colaspis louisianae</i> Blake, <i>Rhabdopterus praetextus</i> (Say)
<i>Gaillardia aestivalis</i> (Walt.) Rock (Asteraceae)	<i>Cassida relictata</i> Spaeth
<i>Gaillardia amblyodon</i> Gay (Asteraceae)	<i>Cassida relictata</i> Spaeth
<i>Gaillardia pulchella</i> Foug. (Asteraceae)	<i>Brachypnoea tristis</i> (Olivier), <i>Cassida relictata</i> Spaeth
<i>Gaillardia</i> sp. (Asteraceae)	<i>Diplacaspis prosternalis</i> (Schaeffer)
<i>Galactites tomentosa</i> Moench. (Asteraceae)	<i>Psylliodes chalcomerus</i> (Illiger)
<i>Galeopsis angustifolia</i> Ehrh. ex Hoffm. (Lamiaceae)	<i>Chrysolina fastuosa</i> (Scopoli)
<i>Galeopsis ladamum</i> L. (Lamiaceae)	<i>Chrysolina fastuosa</i> (Scopoli), <i>Phaedon laevigatus</i> (Duftschmid)
<i>Galeopsis pubescens</i> Besser (Lamiaceae)	<i>Phaedon laevigatus</i> (Duftschmid)
<i>Galeopsis tetrahit</i> L. (Lamiaceae)	<i>Chrysolina fastuosa</i> (Scopoli), <i>Epitrix cucumeris</i> (Harris)
<i>Galeopsis</i> sp. (Lamiaceae)	<i>Chrysolina staphylaea</i> (Linnaeus)
<i>Galinsoga ciliata</i> (Raf.) Blake (Asteraceae)	(see <i>Galinsoga quadriradiata</i> Ruiz & Pavin)
<i>Galinsoga parviflora</i> Cav. (Asteraceae)	<i>Chaetocnema denticulata</i> (Illiger), <i>C. pulicaria</i> Melsheimer, <i>Leptinotarsa decemlineata</i> (Say), <i>Systema blanda</i> Melsheimer
<i>Galinsoga quadriradiata</i> Ruiz & Pavin (Asteraceae)	<i>Chaetocnema denticulata</i> (Illiger), <i>C. pulicaria</i> Melsheimer, <i>Diabrotica undecimpunctata</i> Mannerheim, <i>Phyllotreta striolata</i> (Fabricius)
<i>Galium mollugo</i> L. (Rubiaceae)	<i>Longitarsus rubiginosus</i> (Foudras), <i>Sermylassa halensis</i> (Linnaeus)
<i>Galium verum</i> L. (Rubiaceae)	<i>Sermylassa halensis</i> (Linnaeus)
<i>Galium</i> sp. (Rubiaceae)	<i>Orsodacne atra</i> (Ahrens)
Gallberry	(see <i>Ilex glabra</i> (L.) A. Gray)
Garden balsam	(see <i>Impatiens balsamina</i> L.)
Garden bean	(see <i>Phaseolus vulgaris</i> L.)
Garden beet	(see <i>Beta vulgaris</i> L.)
Gardenia	(see <i>Gardenia</i>)
<i>Gardenia jasminoides</i> J. Ellis (Rubiaceae)	<i>Charidotella sexpunctata</i> (Fabricius), <i>Diabrotica undecimpunctata</i> Mannerheim
<i>Gardenia</i> sp. (Rubiaceae)	<i>Systema frontalis</i> (Fabricius)
Garden nasturtium	(see <i>Tropaeolum majus</i> L.)
<i>Gaultheria shallon</i> Pursh (Ericaceae)	<i>Timarcha intricata</i> Haldeman
Gaura	(see <i>Gaura</i>)
<i>Gaura angustifolia</i> Michx. (Onagraceae)	<i>Altica marevagans</i> Horn
<i>Gaura biennis</i> L. (Onagraceae)	<i>Colaspis brunnea</i> (Fabricius), <i>Neogalerucella californiensis</i> (Linnaeus), <i>Physonota unipunctata</i> (Say)
<i>Gaura coccinea</i> Pursh (Onagraceae)	<i>Altica lazulina</i> LeConte
<i>Gaura filiformis</i> Small (Onagraceae)	(see <i>Gaura longiflora</i> Spach)
<i>Gaura longiflora</i> Spach (Onagraceae)	<i>Altica litigata</i> Fall
<i>Gaura mckelveyae</i> (Munz) Raven & Gregory (Onagraceae)	<i>Altica texana</i> Schaeffer
<i>Gaura mollis</i> James (Onagraceae)	<i>Altica bimarginata</i> Say, <i>A. brisleyi</i> Gentner, <i>A. foliaceae</i> LeConte, <i>A. obliterated</i> LeConte, <i>A. texana</i> Schaeffer, <i>A. vialis</i> Fall, <i>Graphops comosa</i> Blake, <i>G. tenuis</i> Blake
<i>Gaura parviflora</i> Douglas ex Lehm. (Onagraceae)	(see <i>Gaura mollis</i> James)
<i>Gaura parvifolia</i> Torr. (Onagraceae)	<i>Altica foliaceae</i> LeConte
<i>Gaura sinuata</i> Nutt. ex Ser. (Onagraceae)	<i>Altica ignita</i> Illiger, <i>A. litigata</i> Fall

Leaf Beetles Listed by Plants

- Gaura villosa* Torr. (Onagraceae) *Graphops comosa* Blake, *G. varians* LeConte
- Gaura* sp. (Onagraceae) *Chaetocnema confinis* Crotch, *Colaspis pseudofavosa* Riley, *Diabrotica virgifera* LeConte, *Graphops nebulosa* (LeConte)
- Gaylussacia baccata* (Wang.) K. Koch (Ericaceae) *Cryptocephalus incertus* Olivier, *Neochlamisus gibbosus* (Fabricius)
- Gaylussacia dumosa* (Andr.) Torr. & Gray (Ericaceae) *Altica vaccinia* Blatchley, *Bassareus lituratus* (Fabricius), *Diachus auratus* (Fabricius), *Kuschelina miniata* (Fabricius), *Neochlamisus tuberculatus* (Klug)
- Gaylussacia* sp. (Ericaceae) *Altica bimarginata* Say, *A. schwarzi* Blatchley, *Chaetocnema floridana* Blatchley, *Cryptocephalus aulicus* Haldeman, *C. binominis* Newman, *C. bivius* Newman, *C. calidus* Suffrian, *C. gibbicollis* Haldeman, *Epitrix cucumeris* (Harris), *Exema gibber* (Fabricius), *E. neglecta* Blatchley, *Galerucella bivittata* Blatchley, *Glyphuroplata pluto* (Newman), *Griburius larvatus* Newman, *Longitarsus solidaginis* Horn, *Metachroma quercatum* (Fabricius), *Myochrous denticollis* (Say), *Pachybrachis atomarius* (Melsheimer), *P. discoideus* Bowditch, *P. spumarius* Suffrian, *P. stygicus* Fall, *Stenispa metallica* (Fabricius), *Triachus atomus* (Suffrian)
- Geiger tree (see *Cordia*)
- Genista tinctoria* L. (Fabaceae) *Chaetocnema concinna* (Marsham)
- Gentian (see *Gentiana*)
- Gentiana* sp. (Gentianaceae) *Physonota arizonae* Schaeffer
- Geranium (see *Geranium*, *Pelargonium*)
- Geranium maculatum* L. (Geraniaceae) *Acalymma vittatum* (Fabricius)
- Geranium viscosissimum* F. E. L. Fischer & C. A. Meyer (Geraniaceae) . *Glyptina abbreviata* Gentner
- Geranium* sp. (Geraniaceae) *Colaspis floridana* Schaeffer, *Galerucella nymphaeae* (Linnaeus), *Pseudoluperus longulus* (LeConte)
- Gerardia bignoniiflora* Small (Scrophulariaceae) (see *Aureolaria flava* (L.) Farw.)
- Gerbera jamesonii* Adlam (Asteraceae) *Cryptocephalus trizonatus* Suffrian
- German aster (see *Callistephus chinensis* (L.) Benth.)
- Geum album* J. F. Gmel. (Rosaceae) (see *Geum canadense* Jacq.)
- Geum canadense* Jacq. (Rosaceae) *Brachypnoea puncticollis* (Say), *Neochlamisus eubati* (Brown)
- Geum rivale* L. (Rosaceae) *Galerucella nymphaeae* (Linnaeus)
- Geum triflorum* Pursh (Rosaceae) *Graphops marcessita* (Crotch)
- Geum* sp. (Rosaceae) *Pachybrachis obsoletus* Suffrian
- Giant ragweed (see *Ambrosia trifida* L.)
- Ginoria rohrii* Koehne (Lythraceae) *Chaetocnema brunnescens* Horn
- Gladiolus (see *Gladiolus*)
- Gladiolus* sp. (Iridaceae) *Altica ignita* Illiger, *Diabrotica balteata* LeConte, *D. longicornis* (Say), *D. undecimpunctata* Mannerheim, *Disomycha conjugata* (Fabricius), *D. leptolineata* Blatchley
- Gleditsia triacanthos* L. (Fabaceae) *Anomoea flavokansiensis* Moldenke, *A. laticlavata* (Forster), *Brachypnoea puncticollis* (Say), *B. tristis* (Olivier), *Charidotella sexpunctata* (Fabricius), *Coleothorpa dominicana* (Fabricius), *Cryptocephalus guttulatus* Schaeffer, *C. guttulatus* Olivier, *Deloyala guttata* (Olivier), *Derocrepis erythropus* (Melsheimer), *Diachus chlorizans* (Suffrian), *Monocesta coryli* (Say), *Odontota dorsalis* (Thunberg), *O. scapularis* (Olivier), *Pachybrachis pectoralis* (Melsheimer), *Saxinis omogera* Lacordaire, *Sumitrosis rosea* (Weber)
- Gleditsia* sp. (Fabaceae) *Anomoea rufifrons* (Lacordaire), *Pachybrachis precarius* Fall, *Paria quadrinotata* (Say)
- Globe artichoke (see *Cynara scolymus* L.)
- Glottidium vesicarium* (Jacq.) Harper (Fabaceae) *Colaspis floridana* Schaeffer
- Glyceria borealis* (Nash) Batch. (Poaceae) *Donacia hirticollis* Kirby
- Glycine apios* L. (Fabaceae) *Odontota scapularis* (Olivier)
- Glycine hispida* (Moench) Maxim. (Fabaceae) (see *Glycine max* (L.) Merr.)
- Glycine max* (L.) Merr. (Fabaceae) *Acalymma vittatum* (Fabricius), *Altica litigata* Fall, *Anomoea flavokansiensis* Moldenke, *A. laticlavata* (Forster), *A. rufifrons* (Lacordaire), *Baliosus nervosus* (Panzer), *Brachypnoea clypealis* (Horn), *B. tristis* (Olivier), *Cerotoma atrofasciata* Jacoby, *C. ruficornis* (Olivier), *C. trifurcata* (Forster), *Chaetocnema confinis* Crotch, *C. denticulata* (Illiger), *C. pulicaria* Melsheimer, *Charidotella sexpunctata* (Fabricius), *Chrysochus auratus* (Fabricius), *Chrysomela scripta* Fabricius, *Colaspis brunnea* (Fabricius), *C. crinicornis* Schaeffer, *C. floridana* Schaeffer, *C. lata*

- Schaeffer, *C. louisianae* Blake, *Cryptocephalus fulguratus* LeConte, *Deloyala guttata* (Olivier), *Diabrotica balteata* LeConte, *D. barberi* Smith & Lawrence, *D. longicornis* (Say), *D. tibialis* Jacoby, *D. undecimpunctata* Mannerheim, *D. virgifera* LeConte, *Diachus auratus* (Fabricius), *Disomycha collata* (Fabricius), *D. glabrata* (Fabricius), *D. triangularis* (Say), *D. xanthomelas* (Dalman), *Epitrix cucumeris* (Harris), *E. fasciata* Blatchley, *E. fuscata* Crotch, *E. hirtipennis* (Melsheimer), *Fidia longipes* (Melsheimer), *F. viticida* Walsh, *Glyptina cyanipennis* (Crotch), *Graphops pubescens* (Melsheimer), *Gratiana pallidula* (Boheman), *Lema daturaphila* Kogan & Goeden, *Leptinotarsa decemlineata* (Say), *Lexiphanes saponatus* (Fabricius), *Longitarsus testaceus* (Melsheimer), *Lupraea picta* (Say), *Margaridisa atriventris* (Melsheimer), *Metachroma longicollis* Jacoby, *Monocesta coryli* (Say), *Myochrous denticollis* (Say), *Neogalerucella californiensis* (Linnaeus), *Neolema sexpunctata* (Olivier), *Odontota arizonica* (Uhmman), *O. dorsalis* (Thunberg), *O. horni* Smith, *Ophraella notulata* (Fabricius), *Oulema melanopus* (Linnaeus), *Pachybrachis peccans* Suffrian, *P. pectoralis* (Melsheimer), *Pagria signata* (Motschulsky), *Parchicola tibialis* (Olivier), *Paria fragariae* Wilcox, *P. sellata* (Horn), *P. thoracica* (Melsheimer), *Phyllecthris dorsalis* (Olivier), *Phyllotreta bipustulata* (Fabricius), *P. striolata* (Fabricius), *P. zimmermanni* (Crotch), *Plagiodera versicolora* (Laicharting), *Psylliodes chrysocephalus* (Linnaeus), *P. punctulatus* Melsheimer, *Rhabdopterus deceptor* Barber, *R. praetextus* (Say), *Sumitrosis ancoroides* (Schaeffer), *S. rosea* (Weber), *Systema blanda* Melsheimer, *S. elongata* (Fabricius), *S. frontalis* (Fabricius), *S. hudsonias* (Forster), *S. pallicornis* Schaeffer, *Typophorus nigrinus* (Fabricius), *Xenochalepus ater* (Weise)
- Glycine soja* Hort. (Fabaceae) (see *Glycine max* (L.) Merr.)
- Glycine* sp. (Fabaceae) *Euphrytus intermedius* Jacoby, *Lema confusa* Chevrolat
- Glycyrrhiza lepidota* Nutt. ex Pursh (Fabaceae) *Chaetocnema confinis* Crotch, *Cryptocephalus castaneus* LeConte, *C. sanguinicollis* Suffrian, *Colaspis suggona* Blake, *Glyptoscelis alternata* Crotch, *Pachybrachis abdominalis* (Say)
- Gnaphalium californicum* DC. (Asteraceae) *Exema conspersa* (Mannerheim)
- Gnaphalium decurrens* L. (Asteraceae) (see *Gnaphalium viscosum* Kunth)
- Gnaphalium obtusifolium* L. (Asteraceae) *Epitrix fasciata* Blatchley
- Gnaphalium polycephalum* Michx. (Asteraceae) (see *Gnaphalium obtusifolium* L.)
- Gnaphalium viscosum* Kunth (Asteraceae) *Exema conspersa* (Mannerheim)
- Gnaphalium* sp. (Asteraceae) *Epitrix hirtipennis* (Melsheimer)
- Goatweed (see *Hypericum perforatum* L.)
- Goldenglow (see *Rudbeckia*)
- Golden ragwort (see *Senecio aureus* L.)
- Golden raintree (see *Koelreuteria paniculata* Laxm.)
- Goldenrod (see *Solidago*)
- Golden willow (see *Salix alba* L.)
- Gonolobus* sp. (Asclepiadaceae) *Eumolpus robustus* (Horn)
- Gooseberry (see *Ribes*)
- Goose tansy (see *Potentilla anserina* L.)
- Gossypium arboreum* L. (Malvaceae) *Colaspis brunnea* (Fabricius), *Gastrophysa cyanea* Melsheimer
- Gossypium barbadense* L. (Malvaceae) *Colaspis brunnea* (Fabricius), *Cryptocephalus nigrocinctus* Suffrian, *Gastrophysa cyanea* Melsheimer, *Hilarocassis exclamationis* (Linnaeus)
- Gossypium herbaceum* L. (Malvaceae) *Diabrotica undecimpunctata* Mannerheim, *Metrioidea brunnea* (Crotch), *Systema blanda* Melsheimer
- Gossypium hirsutum* L. (Malvaceae) *Altica litigata* Fall, *Cerotoma ruficornis* (Olivier), *Colaspis brunnea* (Fabricius), *C. floridana* Schaeffer, *Diabrotica balteata* LeConte, *D. undecimpunctata* Mannerheim, *D. virgifera* LeConte, *Disomycha collata* (Fabricius), *D. glabrata* (Fabricius), *Epitrix cucumeris* (Harris), *Lema opulenta* Gemminger & Harold, *Longitarsus varicornis* Suffrian, *Metaparia viridimicans* (Horn), *Myochrous longulus* LeConte, *Ophraella communis* LeSage, *Strabala rufa* (Illiger), *Typophorus nigrinus* (Fabricius)
- Gossypium thurberi* Todaro (Malvaceae) *Colaspis brunnea* (Fabricius), *Gastrophysa cyanea* Melsheimer, *Lema balteata* LeConte
- Gossypium* sp. (Malvaceae) *Acalymma trivittatum* (Mannerheim), *A. vittatum* (Fabricius), *Altica foliaceae* LeConte, *Anomoea laticlavata* (Forster), *Asphaera abdominalis* (Chevrolat), *A. lustrans* (Crotch), *Bassareus brunnipes* (Olivier), *B. clathratus* (Melsheimer), *Brachycoryna pumila* Guérin-Méneville, *Brachypnoea puncticollis* (Say), *B. tristis* (Olivier), *Cerotoma trifurcata* (Forster), *Chaetocnema confinis* Crotch, *C. ectypa* Horn, *C. pulicaria* Melsheimer, *Charidotella sexpunctata* (Fabricius), *Colaspis hesperia* Blake, *C. louisianae* Blake, *C. viridiceps* Schaeffer, *Cryptocephalus*

Leaf Beetles Listed by Plants

- albicans* Haldeman, *C. badius* Suffrian, *C. calidus* Suffrian, *C. cribripennis* LeConte, *C. fulguratus* LeConte, *C. guttulatus* Olivier, *C. leucomelas* Suffrian, *C. trizonatus* Suffrian, *Deloyala guttata* (Olivier), *Diabrotica longicornis* (Say), *D. tibialis* Jacoby, *Disonycha alternata* (Illiger), *D. discoidea* (Fabricius), *D. fumata* (LeConte), *D. varicornis* Horn, *Epitrix fuscula* Crotch, *E. hirtipennis* (Melsheimer), *Fidia confusa* Strother, *F. viticida* Walsh, *Glyptina brunnea* Horn, *G. spuria* LeConte, *Glyptoscelis albida* LeConte, *Gratiana pallidula* (Boheman), *Griburius larvatus* Newman, *Kuschelina fallax* (Melsheimer), *Lema confusa* Chevrolat, *L. daturaphila* Kogan & Goeden, *L. trivittata* Say, *Leptinotarsa lineolata* (Stål), *L. tlascalana* Stål, *Lexiphanes saponatus* (Fabricius), *Metachroma floridanum* Crotch, *M. longicollis* Jacoby, *M. ustum* LeConte, *Metaparia opacicollis* (Horn), *Metrioidea blakeae* (Wilcox), *M. varicornis* (LeConte), *Myochrous cyphus* Blake, *M. denticollis* (Say), *Neolema sexpunctata* (Olivier), *Pachybrachis confederatus* Fall, *Parchicola tibialis* (Olivier), *Paria opacicollis* LeConte, *P. sellata* (Horn), *P. sexnotata* (Say), *Phyllecthris gentilis* (LeConte), *Phyllotreta ramosa* (Crotch), *P. striolata* (Fabricius), *Physonota alutacea* Boheman, *P. calochroma* (Blake), *Plagiometriona clavata* (Fabricius), *Rhabdopterus picipes* (Olivier), *R. praetextus* (Say), *Stenopodius flavidus* Horn, *Systema bitaeniata* (LeConte), *S. elongata* (Fabricius), *S. frontalis* (Fabricius), *S. marginalis* (Illiger), *S. mitis* (LeConte), *Zygogramma malvae* (Stål)
- Gourd (see *Cucurbita* and similar genera)
- Governor Wood cherry (see *Prunus avium* (L.) L.)
- Grain sorghum (see *Sorghum bicolor* (L.) Moench)
- Grama (see *Bouteloua*)
- Grape (see *Vitis*)
- Grapefruit (see *Citrus paradisi* Macfad.)
- Gray tansy mustard (see *Descurainia richardsonii* (Sweet) O. W. Schulz)
- Greasewood (see *Sarcobatus vermiculatus* (Hook.) J. Torr.)
- Greater ragweed (see *Ambrosia trifida* L.)
- Green bean (see *Phaseolus vulgaris* L.)
- Green pepper (see *Capsicum annuum* L.)
- Green tansy mustard (see *Descurainia pinnata* (Walt.) Britt.)
- Grindelia camporum* E. L. Greene (Asteraceae) *Chaetocnema denticulata* (Illiger)
- Grindelia humilis* Hook. & Arn. (Asteraceae) *Monoxia inornata* Blake
- Grindelia lanceolata* Nutt. (Asteraceae) *Diabrotica undecimpunctata* Mannerheim
- Grindelia nuda* Wood (Asteraceae) *Metrioidea popenoei* (Blake)
- Grindelia papposa* Nesom & Suh (Asteraceae) *Exema canadensis* Pierce
- Grindelia squarrosa* (Pursh) Dun. (Asteraceae) *Gastrophysa dissimilis* (Say), *Monoxia inornata* Blake
- Grindelia* sp. (Asteraceae) *Glyptina texana* (Crotch), *Monoxia consputa* (LeConte), *Trirhabda luteocincta* (LeConte)
- Ground cherry (see *Physalis*)
- Ground-cherry (see *Physalis*)
- Groundcherry (see *Physalis*)
- Groundsel bush (see *Baccharis*)
- Groundsel tree (see *Baccharis*)
- Guajacum angustifolium* Engelm. (Zygophyllaceae) *Monoxia sordida* (LeConte)
- Guajillo (see *Acacia berlandieri* Benth.)
- Guava (see *Psidium*)
- Guayule (see *Parthenium argentatum* A. Gray)
- Guinea squash (see *Solanum melongena* L.)
- Gum (see *Liquidambar*, *Nyssa*)
- Gutierrezia californica* (DC.) J. Torr. & A. Gray (Asteraceae) *Monoxia puberula* Blake
- Gutierrezia dracunculoides* (DC.) Hoffm. (Asteraceae) *Cryptocephalus bispinus* Suffrian, *Diabrotica undecimpunctata* Mannerheim, *Diachus auratus* (Fabricius), *Exema byersi* Karren, *Metaparia clytroides* Crotch, *Metrioidea blakeae* (Wilcox), *Pachybrachis caelatus* LeConte, *P. othonus* (Say), *P. vau* Fall
- Gutierrezia lucida* (Greene) Greene (Asteraceae) (see *Gutierrezia microcephala* (DC.) A. Gray)
- Gutierrezia microcephala* (DC.) A. Gray (Asteraceae) *Coleorozena pilatei* (Lacordaire), *Cryptocephalus confluentus* Say, *C. dorsatus* White, *Diabrotica undecimpunctata* Mannerheim, *Epitrix hirtipennis* (Melsheimer), *Exema deserti* Pierce, *E. mormona* Karren, *Glyptina spuria* LeConte, *Luperaltica semiflava* (Fall), *Pachybrachis nero* Bowditch, *P. vau* Fall, *Trirhabda flavolimbata* (Mannerheim), *T.*

- nitidicollis* LeConte
- Gutierrezia sarothrae* (Pursh) N. L. Britt. & Rusby (Asteraceae) . . . *Altica aeruginosa* LeConte, *A. foliaceae* LeConte, *Babia tetraspilota* LeConte, *Chaetocnema pulicaria* Melsheimer, *Chlamisus foveolatus* (Knoch), *Coleothorpa mucorea* (LeConte), *Coscinoptera aeneipennis* (LeConte), *Cryptocephalus amatus* Haldeman, *C. bruneovittatus* Schaeffer, *C. cerinus* White, *C. spurcus* LeConte, *C. vapidus* White, *Diabrotica longicornis* (Say), *D. undecimpunctata* Mannerheim, *D. virgifera* LeConte, *Diachus auratus* (Fabricius), *Disonycha figurata* Jacoby, *D. punctigera* (LeConte), *Distigmoptera apicalis* Blake, *Exema canadensis* Pierce, *E. deserti* Pierce, *E. mormona* Karren, *Gastrophysa dissimilis* (Say), *Glyptina cerina* (LeConte), *Monoxia apicalis* Blake, *M. puberula* Blake, *M. sordida* (LeConte), *Pachybrachis bivittatus* (Say), *P. caelatus* LeConte, *P. mellitus* Bowditch, *P. nero* Bowditch, *P. nigricornis* (Say), *P. vau* Fall, *Paranapiacaba tricineta* (Say), *Paria quadriguttata* LeConte, *Psylliodes punctulatus* Melsheimer, *Saxinis knausii* Schaeffer, *Systema blanda* Melsheimer, *S. laevis* Blake, *Trirhabda convergens* LeConte, *T. flavolimbata* (Mannerheim), *T. nitidicollis* LeConte, *Zygogramma disrupta* (Rogers)
- Gutierrezia texana* (DC.) Torr. & Gray (Asteraceae) *Cryptocephalus bispinus* Suffrian, *C. bruneovittatus* Schaeffer, *Diabrotica undecimpunctata* Mannerheim, *Exema mormona* Karren, *Metaparia clytroides* Crotch, *Pachybrachis caelatus* LeConte, *P. othonus* (Say), *P. vau* Fall
- Gutierrezia* sp. (Asteraceae) *Chrysochus cobaltinus* LeConte, *Chryso-lina flavomarginata* (Say), *Disonycha latifrons* Schaeffer, *Leptinotarsa tumamoca* Tower
- Gymnolomia multiflora* (Nutt.) Rothr. (Asteraceae) *Zygogramma continua* (LeConte)
- Gymnosperma glutinosum* (Spreng.) Less. (Asteraceae) *Cryptocephalus simulans* Schaeffer, *Pachybrachis nero* Bowditch
- Gypsophila pacifica* Komarov (Caryophyllaceae) *Cassida azurea* Fabricius
- Gypsophila paniculata* L. (Caryophyllaceae) *Cassida azurea* Fabricius
- Gypsophila repens* L. (Caryophyllaceae) *Cassida azurea* Fabricius
- Gypsophila struthium* L. (Caryophyllaceae) *Longitarsus succineus* (Foudras), *Phyl-loireta cruciferae* (Goeze)
- Hackberry (see *Celtis*)
- Hackelia virginiana* (L.) I. M. Johnston (Boraginaceae) *Longitarsus melanurus* (Melsheimer)
- Hackelia* sp. (Boraginaceae) *Phaedon armoraciae* (Linnaeus)
- Hairy nightshade (see *Solanum sarrachoides* Sendt.)
- Hairy vetch (see *Vicia villosa* Roth)
- Hamamelis vernalis* Sarg. (Hamamelidaceae) *Anomoea laticlavata* (Forster), *Orsodacne atra* (Ahrens)
- Hamamelis virginiana* L. (Hamamelidaceae) *Calligrapha philadelphica* (Linnaeus), *Derospidea brevicollis* (LeConte), *Neochlamisus bebbianae* (Brown), *Rhabdopterus picipes* (Olivier), *Scelolyperus meracus* (Say), *Xanthonia villosula* (Melsheimer)
- Hamamelis* sp. (Hamamelidaceae) *Altica ambiens* LeConte, *Xanthonia decem-notata* (Say)
- Haplopappus acradenius* (Greene) Blake (Asteraceae) *Exema conspersa* (Mannerheim)
- Haplopappus ericoides* (Less.) Hook. & Arn. (Asteraceae) *Trirhabda geminata* Horn, *T. labrata* Fall
- Haplopappus ciliatus* DC. (Asteraceae) *Diabrotica virgifera* LeConte
- Haplopappus linearifolius* DC. (Asteraceae) *Scelolyperus varipes* (LeConte), *Trirhabda confusa* Blake
- Haplopappus palmeri* A. Gray (Asteraceae) *Trirhabda luteocincta* (LeConte)
- Haplopappus phyllocephalus* DC. (Asteraceae) *Exema canadensis* Pierce
- Haplopappus sonorensis* (A. Gray) S. F. Blake (Asteraceae) *Pachybrachis melanostictus* Suffrian
- Haplopappus squarrosus* Hook. & Arn. (Asteraceae) *Microrhopala rubrolineata* (Mannerheim), *Trirhabda luteocincta* (LeConte)
- Haplopappus tenuisectus* (Greene) Blake ex L. D. Benson (Asteraceae) . . *Trirhabda flavolimbata* (Mannerheim)
- Haplopappus venetus* (Kunth in H. B. K.) Blake (Asteraceae) *Exema conspersa* (Mannerheim), *Mi-crorhopala rubrolineata* (Mannerheim), *Trirhabda luteocincta* (LeConte)
- Haplopappus* sp. (Asteraceae) *Trirhabda convergens* LeConte
- Hare's ear mustard (see *Conringia orientalis* (L.) Dumort.)
- Hartmannia speciosa* (Nutt.) Small (Onagraceae) *Diabrotica undecimpunctata* Mannerheim
- Haw (see *Crataegus*)
- Hawkweed (see *Hieracium*)
- Hawthorn (see *Crataegus*)
- Hazel (see *Corylus*)
- Hazelnut (see *Corylus*)

Leaf Beetles Listed by Plants

Heath aster	(see <i>Symphytotrichum ericoides</i> (L.) Nesom)
<i>Hechtia texensis</i> S. Wats. (Bromeliaceae)	<i>Aulacoscelis vogti</i> Monrós
<i>Hedera helix</i> L. (Araliaceae)	<i>Fidia viticida</i> Walsh
<i>Hedera</i> sp. (Araliaceae)	<i>Oomorphus floridanus</i> Horn
Hedge mustard	(see <i>Sisymbrium officinale</i> (L.) Scop.)
<i>Helenium tenuifolium</i> Nutt. (Asteraceae)	<i>Myochrous denticollis</i> (Say)
<i>Helenium</i> sp. (Asteraceae)	<i>Altica marevagans</i> Horn, <i>Kuschelina petaurista</i> (Fabricius), <i>Ophraella communis</i> LeSage, <i>Systema elongata</i> (Fabricius)
<i>Heleocharis</i> sp. (Cyperaceae)	(see <i>Eleocharis</i>)
<i>Helianthemum apenninum</i> L. (Cistaceae)	<i>Aphthona abdominalis</i> (Duftschmid)
<i>Helianthemum nummularium</i> Mill. (Cistaceae)	(see <i>Helianthemum vulgare</i> Gaertn.)
<i>Helianthemum vulgare</i> Gaertn. (Cistaceae)	<i>Aphthona flava</i> Guillebau
<i>Helianthemum</i> sp. (Cistaceae)	<i>Longitarsus jacobaeae</i> (Waterhouse), <i>L. pratensis</i> (Panzer)
<i>Helianthus angustifolius</i> L. (Asteraceae)	<i>Zygogramma exclamationis</i> (Fabricius)
<i>Helianthus annuus</i> L. (Asteraceae)	<i>Acalymma trivittatum</i> (Melsheimer), <i>A. vittatum</i> (Fabricius), <i>Cassida rubiginosa</i> Müller, <i>Cerotoma ruficornis</i> (Olivier), <i>Chelymorpha phytophagica</i> Crotch, <i>Cryptocephalus snowi</i> Schaeffer, <i>Diabrotica barberi</i> Smith & Lawrence, <i>D. longicornis</i> (Say), <i>D. undecimpunctata</i> Melsheimer, <i>D. virgifera</i> LeConte, <i>Diachus auratus</i> (Fabricius), <i>Epitrix cucumeris</i> (Harris), <i>Labidomera clivicollis</i> (Kirby), <i>Leptinotarsa decemlineata</i> (Say), <i>Microrhopala excavata</i> (Olivier), <i>Omophoita cyanipennis</i> (Fabricius), <i>Ophraella communis</i> LeSage, <i>O. notata</i> (Fabricius), <i>O. notulata</i> (Fabricius), <i>Paranapiacaba tricincta</i> (Say), <i>Phaedon cyanescens</i> Stål, <i>Psylliodes chalconeris</i> (Illiger), <i>Systema blanda</i> Melsheimer, <i>S. frontalis</i> (Fabricius), <i>S. hudsonias</i> (Forster), <i>Zygogramma conjuncta</i> (Rogers), <i>Z. exclamationis</i> (Fabricius), <i>Z. piceicollis</i> (Stål), <i>Z. tortuosa</i> (Rogers)
<i>Helianthus argophyllus</i> J. Torr. & A. Gray (Asteraceae)	<i>Zygogramma exclamationis</i> (Fabricius)
<i>Helianthus ciliaris</i> DC. (Asteraceae)	<i>Ophraella artemisiae</i> Futuyma, <i>O. communis</i> LeSage, <i>Zygogramma exclamationis</i> (Fabricius)
<i>Helianthus debilis</i> Nutt. (Asteraceae)	<i>Zygogramma exclamationis</i> (Fabricius)
<i>Helianthus decapetalus</i> L. (Asteraceae)	<i>Physonota helianthi</i> (Randall), <i>P. unipunctata</i> (Say)
<i>Helianthus fascicularis</i> Greene (Asteraceae)	<i>Zygogramma conjuncta</i> (Rogers)
<i>Helianthus giganteus</i> L. (Asteraceae)	<i>Brachypnoea tristis</i> (Olivier), <i>Zygogramma exclamationis</i> (Fabricius)
<i>Helianthus grosseserratus</i> Martens (Asteraceae)	<i>Colaspis brunnea</i> (Fabricius), <i>Cryptocephalus calidus</i> Suffrian, <i>Diabrotica longicornis</i> (Say), <i>D. undecimpunctata</i> Mannerheim, <i>Metachroma interruptum</i> (Say), <i>Ophraella conferta</i> (LeConte), <i>Physonota helianthi</i> (Randall), <i>Trirhabda adela</i> Blake
<i>Helianthus hirsutus</i> Raf. (Asteraceae)	<i>Capraita circumdata</i> (Randall), <i>Diabrotica undecimpunctata</i> Mannerheim, <i>Exema dispar</i> Lacordaire, <i>Microrhopala rileyi</i> Clark, <i>M. rubrolineata</i> (Mannerheim), <i>Physonota helianthi</i> (Randall), <i>P. unipunctata</i> (Say), <i>Sumitrosis inaequalis</i> (Weber)
<i>Helianthus x laetiflorus</i> Pers. (Asteraceae)	<i>Diabrotica cristata</i> (Harris)
<i>Helianthus lenticularis</i> Rydb. (Asteraceae)	(see <i>Helianthus annuus</i> L.)
<i>Helianthus maximiliani</i> Schrad. (Asteraceae)	<i>Diabrotica cristata</i> (Harris), <i>Trirhabda adela</i> Blake
<i>Helianthus mollis</i> Lam. (Asteraceae)	<i>Systema hudsonias</i> (Forster), <i>Zygogramma exclamationis</i> (Fabricius)
<i>Helianthus nuttallii</i> J. Torr. & A. Gray (Asteraceae)	<i>Metrioidea atriceps</i> (Horn)
<i>Helianthus occidentalis</i> Riddell (Asteraceae)	<i>Luperaltica nigripalpis</i> (LeConte)
<i>Helianthus paradoxus</i> Heiser (Asteraceae)	<i>Zygogramma exclamationis</i> (Fabricius)
<i>Helianthus pauciflorus</i> Nutt. (Asteraceae)	<i>Trirhabda adela</i> Blake
<i>Helianthus petiolaris</i> Nutt. (Asteraceae)	<i>Systema blanda</i> Melsheimer, <i>Zygogramma exclamationis</i> (Fabricius)
<i>Helianthus praecox</i> J. Torr. & A. Gray (Asteraceae)	<i>Zygogramma exclamationis</i> (Fabricius)
<i>Helianthus pumilus</i> Nuttall (Asteraceae)	<i>Trirhabda bacharidis</i> (Weber)
<i>Helianthus salicifolius</i> A. Dietr. (Asteraceae)	<i>Zygogramma exclamationis</i> (Fabricius)
<i>Helianthus strumosus</i> L. (Asteraceae)	<i>Bassareus mammifer</i> (Newman), <i>Cryptocephalus notatus</i> Fabricius, <i>Microrhopala excavata</i> (Olivier), <i>Physonota helianthi</i> (Randall)
<i>Helianthus tuberosus</i> L. (Asteraceae)	<i>Acalymma vittatum</i> (Fabricius), <i>Cryptocephalus leucomelas</i> Suffrian, <i>Diabrotica cristata</i> (Harris), <i>D. longicornis</i> (Say), <i>D. undecimpunctata</i> Mannerheim, <i>D. virgifera</i> LeConte, <i>Disonycha collata</i> (Fabricius), <i>Exema dispar</i> Lacordaire, <i>Ophraella</i>

- communa* LeSage, *Systema hudsonias* (Forster), *Trirhabda adela* Blake, *Zygogramma exclamationis* (Fabricius)
- Helianthus virgatus* Lam. (Asteraceae) (see *Helianthus giganteus* L.)
- Helianthus viridis* E. Watson (Asteraceae) *Brachypnoea tristis* (Olivier)
- Helianthus* sp. (Asteraceae) *Altica carduorum* Guérin-Ménéville, *Brachypnoea clypealis* (Horn), *Calligrapha lunata* (Fabricius), *Cassida azurea* Fabricius, *Chelymorpha cassidea* (Fabricius), *Cryptocephalus trizonatus* Suffrian, *Diabrotica balteata* LeConte, *Disonycha arizonae* Casey, *D. politula* Horn, *Distigmoptera borealis* Blake, *Fidia viticida* Walsh, *Glyptina texana* (Crotch), *Glyptoscelis alternata* Crotch, *G. longior* LeConte, *Lema daturaphila* Kogan & Goeden, *L. trivittata* Say, *Liliocerus lili* (Scopoli), *Luperosoma schwarzi* (Horn), *Metrioidea convexa* (Blake), *Neolema cordata* White, *Ophraella americana* (Fabricius), *Oulema melanopus* (Linnaeus), *Pachybrachis diversus* Fall, *Phyllotreta zimmermanni* (Crotch), *Psylliodes sublaevis* Horn, *Smaragdina militaris* (LeConte), *Spintherophyta globosa* (Olivier), *Trirhabda geminata* Horn, *T. virgata* LeConte, *Zygogramma disrupta* (Rogers), *Z. signatipennis* (Stål)
- Helichrysum* sp. (Asteraceae) *Epitrix hirtipennis* (Melsheimer), *Systema frontalis* (Fabricius)
- Heliopsis helianthoides* (L.) Sweet (Asteraceae) *Diabrotica cristata* (Harris)
- Heliopsis parviflora* A. Gray (Asteraceae) *Calligrapha multiguttata* Stål
- Heliopsis* sp. (Asteraceae) *Physonota helianthi* (Randall)
- Heliotrope (see *Heliotropium*, *Valeriana*)
- Heliotropium angiospermum* Murray (Boraginaceae) *Longitarsus varicornis* Suffrian
- Heliotropium arborescens* L. (Boraginaceae) *Longitarsus quadriguttatus* (Pontoppidan), *L. varicornis* Suffrian
- Heliotropium humifusum* Kunth (Boraginaceae) *Longitarsus varicornis* Suffrian
- Heliotropium indicum* L. (Boraginaceae) *Disonycha glabrata* (Fabricius), *Epitrix cucumeris* (Harris), *Longitarsus varicornis* Suffrian
- Heliotropium* sp. (Boraginaceae) *Oulema melanopus* (Linnaeus)
- Hellebore (see *Helleborus*, *Veratrum*)
- Helleborus orientalis* Lam. (Ranunculaceae) *Liliocerus lili* (Scopoli)
- Helleborus viridis* L. (Ranunculaceae) *Scelolyperus bimarginatus* (Blake)
- Hemerocallis fulva* (L.) L. (Liliaceae) (see *Hemerocallis lilioasphodelus* L.)
- Hemerocallis lilioasphodelus* L. (Liliaceae) *Scelolyperus liriophilus* Wilcox
- Hemerocallis* sp. (Liliaceae) *Acalymma trivittatum* (Melsheimer), *Diabrotica undecimpunctata* Mannerheim, *Glyptoscelis pubescens* (Fabricius)
- Hemizonia corymbosa* (DC.) J. Torr. & A. Gray (Asteraceae) *Ophraella communis* LeSage
- Hemizonia fasciculata* (DC.) J. Torr. & A. Gray (Asteraceae) *Cryptocephalus andrewsi* Riley & Gilbert
- Hemizonia* sp. (Asteraceae) *Brachycoryna dolorosa* Van Dyke
- Hemlock (see *Tsuga*)
- Hemp (see *Cannabis sativa* L.)
- Hemp nettle (see *Galeopsis tetrahit* L.)
- Henbane (see *Hyoscyamus niger* L.)
- Henbit (see *Lamium*)
- Hepatica nobilis* P. Mill. (Ranunculaceae) *Orsodacne atra* (Ahrens)
- Heracleum lanatum* Michx. (Apiaceae) *Acalymma vittatum* (Fabricius), *Diabrotica undecimpunctata* Mannerheim, *Pseudoluperus longulus* (LeConte)
- Hercules-club (see *Aralia spinosa* L.)
- Hesperis matronalis* L. (Brassicaceae) *Phyllotreta cruciferae* (Goeze), *P. striolata* (Fabricius), *Psylliodes chrysocephalus* (Linnaeus)
- Heteromeles arbutifolia* (Lindl.) M. J. Roem. (Rosaceae) *Saxinis saucia* LeConte
- Heteromeles salicifolia* (C. Presl.) Abrams (Rosaceae) *Saxinis saucia* LeConte
- Heteromeles camporum* (Greene) Shinnars (Asteraceae) *Zygogramma heterothecae* Linell
- Heterotheca grandiflora* Nutt. (Asteraceae) *Microrhopala rubrolineata* (Mannerheim)
- Heterotheca scabra* (Pursh) DC. (Asteraceae) (see *Heterotheca subaxillaris* (Lamb.) N. L. Britt. & Rusby)
- Heterotheca subaxillaris* (Lamb.) N. L. Britt. & Rusby (Asteraceae). *Altica litigata* Fall, *A. marevagans* Horn, *Colaspis brunnea* (Fabricius), *Pachybrachis diversus* Fall, *Zygogramma heterothecae* Linell, *Z. piceicollis* (Stål)
- Heterotheca villosa* (Pursh) Shinnars (Asteraceae) *Microrhopala excavata* (Olivier), *Ophraella arctica* LeSage, *O. artemisiae* Futuyma, *O. bilineata* (Kirby), *O. communis* LeSage, *O. conferta* (LeConte), *O. notulata* (Fabricius)

Leaf Beetles Listed by Plants

<i>Heterotheca</i> sp. (Asteraceae)	<i>Diachus auratus</i> (Fabricius), <i>Metachroma viticola</i> Linell
<i>Heuchera americana</i> L. (Saxifragaceae)	<i>Altica heucherae</i> Fall
<i>Heuchera hispida</i> Pursh (Saxifragaceae)	(see <i>Heuchera americana</i> L.)
<i>Heuchera richardsonii</i> R. Br. (Saxifragaceae)	<i>Altica heucherae</i> Fall, <i>Pachybrachis nigricornis</i> (Say)
Hibiscus	(see <i>Hibiscus</i>)
<i>Hibiscus denudatus</i> Benth. (Malvaceae)	<i>Stenopodius insularis</i> Blaisdell
<i>Hibiscus elatus</i> Sw. (Malvaceae)	<i>Colaspis brunnea</i> (Fabricius)
<i>Hibiscus laevis</i> Scop. (Malvaceae)	<i>Chaetocnema quadricollis</i> Schwarz, <i>Systena frontalis</i> (Fabricius)
<i>Hibiscus lasiocarpus</i> Cav. (Malvaceae)	<i>Chaetocnema quadricollis</i> Schwarz
<i>Hibiscus militaris</i> Cav. (Malvaceae)	(see <i>Hibiscus laevis</i> Scop.)
<i>Hibiscus moscheutos</i> L. (Malvaceae)	<i>Chaetocnema quadricollis</i> Schwarz, <i>Diabrotica undecimpunctata</i> Mannerheim
<i>Hibiscus palustris</i> L. (Malvaceae)	<i>Chaetocnema quadricollis</i> Schwarz
<i>Hibiscus rosa-sinensis</i> L. (Malvaceae)	<i>Charidotella sexpunctata</i> (Fabricius), <i>Colaspis brunnea</i> (Fabricius), <i>Diabrotica balteata</i> LeConte, <i>D. tibialis</i> Jacoby, <i>Pachybrachis femoratus</i> (Olivier)
<i>Hibiscus syriacus</i> L. (Malvaceae)	<i>Liliocerus lili</i> (Scopoli)
<i>Hibiscus</i> sp. (Malvaceae)	<i>Acalymma vittatum</i> (Fabricius), <i>Altica chalybea</i> Illiger, <i>Brachypnoea puncticollis</i> (Say), <i>Chaetocnema confinis</i> Crotch, <i>Colaspis floridana</i> Schaeffer, <i>C. lebasii</i> Lefèvre, <i>Fidia viticida</i> Walsh, <i>Metachroma floridanum</i> Crotch, <i>Physonota alutacea</i> Boheman
Hickory	(see <i>Carya</i>)
<i>Hieracium aurantiacum</i> L. (Asteraceae)	<i>Brachypnoea puncticollis</i> (Say)
<i>Hieracium caespitosum</i> Dumort. (Asteraceae)	<i>Brachypnoea puncticollis</i> (Say)
<i>Hieracium piloselloides</i> Vill. (Asteraceae)	<i>Brachypnoea puncticollis</i> (Say)
<i>Hieracium pratense</i> Tausch. (Asteraceae)	(see <i>Hieracium caespitosum</i> Dumort.)
Hill's oak	(see <i>Quercus ellipsoidalis</i> E. J. Hill)
Himalaya blackberry	(see <i>Rubus procerus</i> P. J. Muell.)
<i>Hippuris vulgaris</i> L. (Haloragaceae)	<i>Phaedon armoraciae</i> (Linnaeus)
<i>Hirschfeldia incana</i> (L.) Lagr.-Fossat (Brassicaceae)	<i>Phyllotreta cruciferae</i> (Goeze), <i>Psylliodes chrysocephalus</i> (Linnaeus)
<i>Hirschfeldia pollichii</i> Fritsch (Brassicaceae)	<i>Phyllotreta cruciferae</i> (Goeze), <i>P. undulata</i> (Kutschera)
Hoary alyssum	(see <i>Berteroa incana</i> (L.) DC.)
Hoary cress	(see <i>Cardaria draba</i> (L.) Desv.)
Hoary lupine	(see <i>Lupinus diffusus</i> Nutt.)
Hog-peanut	(see <i>Amphicarpaea bracteata</i> (L.) Fern.)
Holly	(see <i>Ilex</i>)
Hollyhock	(see <i>Alcea rosea</i> L.)
<i>Holocarpa heermannii</i> (Greene) Keck (Asteraceae)	<i>Brachycoryna dolorosa</i> Van Dyke, <i>Pachybrachis mercurialis</i> Fall
<i>Honckenya peploides</i> (L.) Ehrh. (Caryophyllaceae)	<i>Cassida flaveola</i> Thunberg, <i>C. nobilis</i> Linnaeus
Honeydew melon	(see <i>Cucumis melo</i> L.)
Honeylocust	(see <i>Gleditsia triacanthos</i> L.)
Honey locust	(see <i>Gleditsia triacanthos</i> L.)
Honeysuckle	(see <i>Lonicera</i>)
Hop	(see <i>Humulus</i>)
Hop clover	(see <i>Trifolium</i>)
Hop hornbeam	(see <i>Ostrya virginiana</i> (Mill.) K. Koch)
<i>Hordeum distichon</i> L. (Poaceae)	(see <i>Hordeum vulgare</i> L.)
<i>Hordeum geniculatum</i> All. (Poaceae)	<i>Diabrotica undecimpunctata</i> Mannerheim
<i>Hordeum gussoneanum</i> Parl. (Poaceae)	(see <i>Hordeum geniculatum</i> All.)
<i>Hordeum murinum</i> L. (Poaceae)	<i>Chaetocnema ectypa</i> Horn, <i>C. pulicaria</i> Melsheimer, <i>Oulema melanopus</i> (Linnaeus)
<i>Hordeum sativum</i> Pers. (Poaceae)	(see <i>Hordeum vulgare</i> L.)

- Hordeum vulgare* L. (Poaceae) *Chaetocnema ectypa* Horn, *C. pulicaria* Melsheimer, *Diabrotica balteata* LeConte, *D. longicornis* (Say), *D. undecimpunctata* Mannerheim, *D. virgifera* LeConte, *Oulema melanopus* (Linnaeus), *Phyllotreta striolata* (Fabricius), *Zygogramma piceicollis* (Stål), *Z. signatipennis* (Stål)
- Hordeum* sp. (Poaceae) *Chaetocnema denticulata* (Illiger), *C. subconvexa* White, *Chelymorpha cassidea* (Fabricius), *Glyptoscelis squamulata* Crotch, *Lema trivittata* Say, *Phyllotreta pusilla* Horn, *Psylliodes picinus* (Marsham)
- Hornbeam (see *Carpinus caroliniana* Walt., *Ostrya virginiana* (Mill.) K. Koch)
- Horse bean (see *Vicia faba* L.)
- Horse-chestnut (see *Aesculus hippocastanum* L.)
- Horsemint (see *Monarda*)
- Horse-nettle (see *Solanum carolinense* L.)
- Horsenettle (see *Solanum carolinense* L.)
- Horseradish (see *Armoracia rusticana* (Lam.) P. G. Gaertn., B. Mey., & Scherb.)
- Horse sorrel (see *Rumex acetosella* L.)
- Horseweed (see *Coryza canadensis* (L.) Cronq.)
- Horsfordia alata* (S. Watson) A. Gray (Malvaceae) *Stenopodius flavidus* Horn
- Hosta undulata* L. H. Bailey (Liliaceae) *Liliocercis lilii* (Scopoli)
- Hosta ventricosa* (Salisb.) Stearn (Liliaceae) *Liliocercis lilii* (Scopoli)
- Houstonia* sp. (Rubiaceae) *Epitrix cucumeris* (Harris)
- Huajillo (see *Pithecellobium pallens* (Benth.) Standl.)
- Hubbard squash (see *Cucurbita maxima* Duchn. ex Lam.)
- Huckleberry (see *Gaylussacia*)
- Humboldt's willow (see *Salix chilensis* Molina)
- Humulus lupulus* L. (Cannabaceae) *Colaspis brunnea* (Fabricius), *C. hesperia* Blake, *Diabrotica balteata* LeConte, *Epitrix cucumeris* (Harris), *Psylliodes affinis* (Paykull), *P. convexior* LeConte, *P. punctulatus* Melsheimer, *Systema frontalis* (Fabricius)
- Humulus* sp. (Cannabaceae) *Altica prasina* LeConte, *Chaetocnema concinna* (Marsham), *Charidotella sexpunctata* (Fabricius), *Diabrotica undecimpunctata* Mannerheim
- Husk tomato (see *Physalis*)
- Hyacinthus* sp. (Liliaceae) *Diabrotica balteata* LeConte, *Liliocercis lilii* (Scopoli)
- Hydrangea (see *Hydrangea*)
- Hydrangea arborescens* L. (Hydrangeaceae) *Acalymma vittatum* (Fabricius)
- Hydrangea* sp. (Hydrangeaceae) *Babia quadriguttata* (Olivier), *Brachynoea clypealis* (Horn), *Disonycha discoidea* (Fabricius), *Kuschelina gibbilaria* (Say), *Pachybrachis spumarius* Suffrian, *Saxinis omogera* Lacordaire
- Hydrastis canadensis* L. (Ranunculaceae) *Bassareus lituratus* (Fabricius)
- Hydrocharis* sp. (Hydrocharitaceae) *Galerucella nymphaeae* (Linnaeus)
- Hydrophyllum virginianum* L. (Hydrophyllaceae) *Orsodacne atra* (Ahrens)
- Hydrophyllum* sp. (Hydrophyllaceae) *Acalymma vittatum* (Fabricius), *Hemiglyptus basalis* (Crotch)
- Hymenoclea monogyra* J. Torr. & Gray ex A. Gray (Asteraceae) *Brachycoryna longula* Weise, *Exema conspersa* (Mannerheim), *E. dispar* Lacordaire, *Leptinotarsa lineolata* (Stål), *Metacycla insolita* (LeConte), *Pachybrachis marmoratus* Jacoby, *P. minor* Bowditch
- Hymenoclea salsola* J. Torr. & A. Gray (Asteraceae) *Altica torquata* LeConte, *Chrysolina extorris* Brown, *Exema deserti* Pierce, *Leptinotarsa lineolata* (Stål), *Pachybrachis desertus* Fall, *P. marmoratus* Jacoby, *Trirhabda caduca* Horn, *T. nitidicollis* LeConte
- Hymenoclea* sp. (Asteraceae) *Chrysolina staphylaea* (Linnaeus), *Ophraella communis* LeSage, *Pachybrachis jacobyi* Bowditch
- Hymenoxys odorata* DC. (Asteraceae) *Myochrous denticollis* (Say), *Pachybrachis caelatus* LeConte
- Hyoscyamus albus* L. (Solanaceae) *Leptinotarsa decemlineata* (Say)
- Hyoscyamus niger* L. (Solanaceae) *Charidotella sexpunctata* (Fabricius), *Lema daturaphila* Kogan & Goeden, *Leptinotarsa decemlineata* (Say), *L. haldemani* (Rogers), *L. juncta* (Germar), *L. rubiginosa* (Rogers), *Psylliodes affinis* (Paykull)

Leaf Beetles Listed by Plants

<i>Hyoscyamus</i> sp. (Solanaeae)	<i>Lema trivittata</i> Say
<i>Hypericum androsaemum</i> L. (Clusiaceae)	<i>Chrysolina hyperici</i> (Forster)
<i>Hypericum boreale</i> (N. L. Britt.) Bickn. (Clusiaceae)	<i>Chrysolina hyperici</i> (Forster), <i>C. quadrigemina</i> (Suffrian)
<i>Hypericum calycinum</i> L. (Clusiaceae)	<i>Chrysolina hyperici</i> (Forster), <i>C. quadrigemina</i> (Suffrian)
<i>Hypericum crux-andreae</i> (L.) Crantz (Clusiaceae)	<i>Cryptocephalus obsoletus</i> Germar
<i>Hypericum degeneri</i> Fosberg (Clusiaceae)	(see <i>Hypericum parvulum</i> Greene)
<i>Hypericum densiflorum</i> Pursh (Clusiaceae)	<i>Graphops curtispennis</i> (Melsheimer)
<i>Hypericum fasciculatum</i> Lam. (Clusiaceae)	<i>Cryptocephalus obsoletus</i> Germar
<i>Hypericum frondosum</i> Michx. (Clusiaceae)	<i>Chrysolina hyperici</i> (Forster), <i>C. quadrigemina</i> (Suffrian)
<i>Hypericum hypericoides</i> (L.) Crantz (Clusiaceae)	<i>Disonycha balsbaughi</i> Blake, <i>D. caroliniana</i> (Fabricius), <i>Graphops curtispennis</i> (Melsheimer), <i>Paria sellata</i> (Horn)
<i>Hypericum kalmianum</i> L. (Clusiaceae)	<i>Chrysolina hyperici</i> (Forster), <i>C. quadrigemina</i> (Suffrian)
<i>Hypericum maculatum</i> Cr. (Clusiaceae)	<i>Chrysolina hyperici</i> (Forster), <i>C. varians</i> (Schaller)
<i>Hypericum moseranum</i> Andre (Clusiaceae)	<i>Chrysolina hyperici</i> (Forster), <i>C. quadrigemina</i> (Suffrian)
<i>Hypericum olympicum</i> L. (Clusiaceae)	<i>Chrysolina hyperici</i> (Forster), <i>C. quadrigemina</i> (Suffrian)
<i>Hypericum parvulum</i> Greene (Clusiaceae)	<i>Chrysolina hyperici</i> (Forster), <i>C. quadrigemina</i> (Suffrian)
<i>Hypericum perforatum</i> L. (Clusiaceae)	<i>Agasicles hygrophila</i> Selman & Vogt, <i>Altica ambiens</i> LeConte, <i>Chrysolina hyperici</i> (Forster), <i>C. quadrigemina</i> (Suffrian), <i>C. varians</i> (Schaller), <i>Graphops curtispennis</i> (Melsheimer), <i>Scelolyperus schwarzii</i> Horn
<i>Hypericum prolificum</i> L. (Clusiaceae)	<i>Chrysolina hyperici</i> (Forster), <i>C. quadrigemina</i> (Suffrian), <i>Graphops curtispennis</i> (Melsheimer), <i>Pachybrachis relictus</i> Fall, <i>Paria sellata</i> (Horn)
<i>Hypericum punctatum</i> Lam. (Clusiaceae)	<i>Chrysolina quadrigemina</i> (Suffrian)
<i>Hypericum quadrangulum</i> L. (Clusiaceae)	(see <i>Hypericum maculatum</i> Cr.)
<i>Hypericum setosum</i> L. (Clusiaceae)	<i>Kuschelina miniata</i> (Fabricius), <i>K. ulkei</i> (Horn)
<i>Hypericum spathulatum</i> (Spach) Steud. (Clusiaceae)	(see <i>Hypericum prolificum</i> L.)
<i>Hypericum sphaerocarpum</i> Michx. (Clusiaceae)	<i>Paria sellata</i> (Horn)
<i>Hypericum stans</i> (Michx. ex Willd.) P. Adams & Robson (Clusiaceae)	(see <i>Hypericum crux-andreae</i> (L.) Crantz)
<i>Hypericum tetrapterum</i> Fries (Clusiaceae)	<i>Chrysolina hyperici</i> (Forster)
<i>Hypericum tomentosum</i> L. (Clusiaceae)	<i>Chrysolina quadrigemina</i> (Suffrian)
<i>Hypericum</i> sp. (Clusiaceae)	<i>Chrysolina staphylaea</i> (Linnaeus), <i>Disonycha caroliniana</i> (Fabricius), <i>Epitrix cucumeris</i> (Harris), <i>Lexiphanes saponatus</i> (Fabricius), <i>Luperaltica senilis</i> (Say), <i>Metachroma maculipenne</i> Schwarz, <i>Paria canella</i> (Fabricius), <i>P. quadrinotata</i> (Say), <i>Phaedon prasinellus</i> (LeConte)
<i>Hyptis pectinata</i> (L.) Poir. (Lamiaceae)	<i>Chlamisus quadrilobatus</i> (Schaeffer)
<i>Hystrix patula</i> Moench (Poaceae)	(see <i>Elymus hystrix</i> L.)
<i>Iberis umbellata</i> L. (Brassicaceae)	<i>Diabrotica undecimpunctata</i> Mannerheim, <i>D. virgifera</i> LeConte
<i>Iberis</i> sp. (Brassicaceae)	<i>Phyllotreta albionica</i> (LeConte), <i>P. pusilla</i> Horn, <i>P. striolata</i> (Fabricius)
<i>Ibervillea lindheimeri</i> (A. Gray) E. L. Greene (Cucurbitaceae)	<i>Diabrotica balteata</i> LeConte
<i>Idria columnaris</i> Kellogg (Fouquieriaceae)	<i>Coleothorpa axillaris</i> (LeConte), <i>C. mucorea</i> (LeConte)
<i>Ilex cornuta</i> Lindl. & Paxton (Aquifoliaceae)	<i>Rhabdopterus picipes</i> (Olivier)
<i>Ilex crenata</i> Thunb. (Aquifoliaceae)	<i>Rhabdopterus picipes</i> (Olivier)
<i>Ilex decidua</i> Walt. (Aquifoliaceae)	<i>Capraita circumdata</i> (Randall), <i>C. obsidiana</i> (Fabricius), <i>Rhabdopterus deceptor</i> Barber
<i>Ilex glabra</i> (L.) A. Gray (Aquifoliaceae)	<i>Capraita suturalis</i> (Fabricius), <i>Phyllotreta striolata</i> (Fabricius), <i>Rhabdopterus picipes</i> (Olivier)
<i>Ilex opaca</i> Soland. in Ait. (Aquifoliaceae)	<i>Capraita obsidiana</i> (Fabricius), <i>Fidia longipes</i> (Melsheimer)

<i>Ilex verticillata</i> (L.) Gray (Aquifoliaceae)	<i>Capraita obsidiana</i> (Fabricius), <i>Systema frontalis</i> (Fabricius)
<i>Ilex vomitoria</i> Soland. in Ait. (Aquifoliaceae)	<i>Capraita obsidiana</i> (Fabricius), <i>Rhabdop- terus picipes</i> (Olivier)
<i>Ilex</i> sp. (Aquifoliaceae)	<i>Cryptocephalus castaneus</i> LeConte, <i>Di- abrotica virgifera</i> LeConte, <i>Epitrix cucumeris</i> (Harris)
<i>Illicium</i> sp. (Illiciaceae)	<i>Calligrapha floridana</i> Schaeffer
<i>Impatiens balsamina</i> L. (Balsaminaceae)	<i>Colaspis brunnea</i> (Fabricius), <i>Diabrotica undecimpunctata</i> Mannerheim
<i>Impatiens biflora</i> Willd. (Balsaminaceae)	<i>Diabrotica undecimpunctata</i> Mannerheim, <i>Dibolia borealis</i> Chevrolat, <i>Systema frontalis</i> (Fabricius)
<i>Impatiens fulva</i> Nutt. (Balsaminaceae)	(see <i>Impatiens biflora</i> Willd.)
<i>Impatiens</i> sp. (Balsaminaceae)	<i>Monocesta coryli</i> (Say)
Imphee	(see <i>Sorghum</i>)
Incense cedar	(see <i>Libocedrus decurrens</i> J. Torr.)
Indian corn	(see <i>Zea mays</i> L.)
Indian hemp	(see <i>Apocynum cannabinum</i> L.)
Indian mallow	(see <i>Abutilon</i>)
Indian mustard	(see <i>Brassica juncea</i> (L.) Czern.)
<i>Indigofera</i> sp. (Fabaceae)	<i>Disonycha fumata</i> (LeConte)
<i>Inga jagifolia</i> (L.) Willd. (Fabaceae)	(see <i>Inga ruiziana</i> G. Don)
<i>Inga laurina</i> (Sw.) Willd. (Fabaceae)	<i>Cryptocephalus nigrocinctus</i> Suffrian
<i>Inga ruiziana</i> G. Don (Fabaceae)	<i>Cryptocephalus nigrocinctus</i> Suffrian
<i>Inga vera</i> Willd. (Fabaceae)	<i>Cryptocephalus nigrocinctus</i> Suffrian
Inkberry	(see <i>Ilex glabra</i> (L.) Gray)
<i>Inula helenium</i> L. (Asteraceae)	<i>Cassida rubiginosa</i> Müller
<i>Inula</i> sp. (Asteraceae)	<i>Chrysolina staphylaea</i> (Linnaeus), <i>Longi- tarsus pellucidus</i> (Foudras)
<i>Iochroma</i> sp. (Solanaceae)	<i>Lema daturaphila</i> Kogan & Goeden
<i>Ionactis linariifolius</i> (L.) Greene (Asteraceae)	<i>Diabrotica undecimpunctata</i> Mannerheim
<i>Ipomoea acuminata</i> (M. Vahl.) J. J. Roem. & Schult. (Convolvulaceae)	(see <i>Ipomoea cairica</i> (L.) Sweet)
<i>Ipomoea alba</i> L. (Convolvulaceae)	<i>Aphthona abdominalis</i> (Duftschmid), <i>Charidotella sexpunctata</i> (Fabricius), <i>Chelymorpha cassidea</i> (Fabricius), <i>Jonthonota nigripes</i> (Olivier)
<i>Ipomoea amnicola</i> Morong. (Convolvulaceae)	<i>Charidotella sexpunctata</i> (Fabricius)
<i>Ipomoea ampullacea</i> Fern. (Convolvulaceae)	<i>Deloyala guttata</i> (Olivier)
<i>Ipomoea aquatica</i> Forssk. (Convolvulaceae)	<i>Cassida circumdata</i> Herbst, <i>Chaetocnema confinis</i> Crotch
<i>Ipomoea arborescens</i> (Humb. & Bonpl. ex Willd.) G. Don (Convolvulaceae)	<i>Charidotella sexpunctata</i> (Fabri- cius)
<i>Ipomoea aristolochiifolia</i> G. Don (Convolvulaceae)	<i>Chelymorpha cribraria</i> (Fabricius)
<i>Ipomoea batatas</i> (L.) Lam. (Convolvulaceae)	<i>Agroiconota bivittata</i> (Say), <i>Altica litigata</i> Fall, <i>Aspidimorpha transparipennis</i> (Motschulsky), <i>Cassida circumdata</i> Herbst, <i>C. nebulosa</i> Linnaeus, <i>Cero- toma ruficornis</i> (Olivier), <i>C. trifurcata</i> (Forster), <i>Chaetocnema confinis</i> Crotch, <i>C. denticulata</i> (Illiger), <i>C. ectypa</i> Horn, <i>C. pulicaria</i> Melsheimer, <i>Charidotella emarginata</i> (Boheman), <i>C. sexpunctata</i> (Fabricius), <i>C. tuberculata</i> (Fabricius), <i>Chelymorpha cassidea</i> (Fabricius), <i>C. cribraria</i> (Fabricius), <i>Colaspis brunnea</i> (Fabricius), <i>Deloyala guttata</i> (Olivier), <i>D. lecontii</i> (Crotch), <i>Diabrotica balteata</i> LeConte, <i>D. undecimpunctata</i> Mannerheim, <i>Diso- nycha fumata</i> (LeConte), <i>D. glabrata</i> (Fabricius), <i>Epitrix cucumeris</i> (Harris), <i>E. fasciata</i> Blatchley, <i>E. fuscula</i> Crotch, <i>E. hirtipennis</i> (Melsheimer), <i>Gratiana pallidula</i> (Boheman), <i>Jonthonota nigripes</i> (Olivier), <i>Longitar- sus pellucidus</i> (Foudras), <i>L. rubiginosus</i> (Foudras), <i>Nesaecrepida asphaltina</i> (Suffrian), <i>Opacnota bisignata</i> (Boheman), <i>Ophraella notulata</i> (Fabricius), <i>Oulema maculicollis</i> (Lacordaire), <i>O. sayi</i> (Crotch), <i>Plagiometriona clavata</i> (Fabricius), <i>Polychalca punctatissima</i> (Wolf), <i>Strabala rufa</i> (Illiger), <i>Systema blanda</i> Melsheimer, <i>S. elongata</i> (Fabricius), <i>S. frontalis</i> (Fabricius), <i>S. marginalis</i> (Illiger), <i>Typophorus nigrinus</i> (Fabricius)
<i>Ipomoea biloba</i> Forssk. (Convolvulaceae)	<i>Chelymorpha cassidea</i> (Fabricius)
<i>Ipomoea cairica</i> (L.) Sweet (Convolvulaceae)	<i>Cassida circumdata</i> Herbst, <i>Chaetocnema confinis</i> Crotch, <i>Charidotella sexpunctata</i> (Fabricius), <i>Chelymorpha cribraria</i> (Fabricius)
<i>Ipomoea cardiophylla</i> A. Gray (Convolvulaceae)	<i>Chelymorpha cribraria</i> (Fabricius)
<i>Ipomoea coccinea</i> L. (Convolvulaceae)	<i>Epitrix fasciata</i> Blatchley
<i>Ipomoea cordatotriloba</i> Dennst. (Convolvulaceae)	<i>Charidotella sexpunctata</i> (Fabricius), <i>Deloyala guttata</i> (Olivier), <i>Jonthonota nigripes</i> (Olivier), <i>Typophorus nigrinus</i> (Fabricius)

Leaf Beetles Listed by Plants

- Ipomoea crassicaulis* (Benth.) B. Robins. (Convolvulaceae) *Charidotella sexpunctata* (Fabricius)
- Ipomoea digitata* L. (Convolvulaceae) *Cassida circumdata* Herbst
- Ipomoea hederacea* Jacq. (Convolvulaceae) *Cassida circumdata* Herbst, *Deloyala guttata* (Olivier), *D. lecontei* (Crotch), *Diabrotica undecimpunctata* Mannerheim, *Epitrix fasciata* Blatchley
- Ipomoea hederifolia* L. (Convolvulaceae) *Charidotella sexpunctata* (Fabricius)
- Ipomoea hirsutula* Jacq. f. (Convolvulaceae) *Charidotella emarginata* (Boheman), *Chelymorpha cassidea* (Fabricius), *Deloyala guttata* (Olivier), *D. lecontei* (Crotch)
- Ipomoea imperati* (Vah.) Griseb. (Convolvulaceae) *Chelymorpha cribraria* (Fabricius)
- Ipomoea indica* (Burm. f.) Merr. (Convolvulaceae) *Cassida circumdata* Herbst, *Chelymorpha cribraria* (Fabricius)
- Ipomoea lacunosa* L. (Convolvulaceae) *Charidotella sexpunctata* (Fabricius), *Diabrotica undecimpunctata* Mannerheim
- Ipomoea leptophylla* J. Torr. (Convolvulaceae) *Chaetocnema dispar* Horn, *Charidotella sexpunctata* (Fabricius), *Chelymorpha cassidea* (Fabricius), *C. phytophagica* Crotch, *Deloyala guttata* (Olivier), *Jonthonota nigripes* (Olivier)
- Ipomoea murucoides* Roem & Schult. (Convolvulaceae) *Charidotella bifossulata* (Boheman), *C. emarginata* (Boheman)
- Ipomoea mutabilis* Ker Gawl. (Convolvulaceae) *Deloyala guttata* (Olivier)
- Ipomoea nil* (L.) Roth (Convolvulaceae) *Chaetocnema confinis* Crotch
- Ipomoea palmata* Forssk. (Convolvulaceae) (see *Ipomoea cairica* (L.) Sweet)
- Ipomoea pandurata* (L.) G. F. W. Mey. (Convolvulaceae) *Agroiconota bivittata* (Say), *Calligrapha praeceps* (Rogers), *Chaetocnema confinis* Crotch, *Charidotella purpurata* (Boheman), *C. sexpunctata* (Fabricius), *Chelymorpha cassidea* (Fabricius), *Cryptocephalus venustus* Fabricius, *Deloyala guttata* (Olivier), *Epitrix fasciata* Blatchley, *Jonthonota nigripes* (Olivier), *Lema trivittata* Say, *Leptinotarsa juncta* (Germar), *Opacinata bisignata* (Boheman), *Strongylocassis atripes* (LeConte), *Sumitrosis rosea* (Weber), *Typophorus nigritus* (Fabricius)
- Ipomoea pedicellaris* Benth. (Convolvulaceae) *Charidotella emarginata* (Boheman), *Chlamisus maculipes* (Chevrolat)
- Ipomoea pes-caprae* (L.) R. Br. (Convolvulaceae) *Charidotella sexpunctata* (Fabricius), *Chelymorpha cassidea* (Fabricius), *C. cribraria* (Fabricius), *Typophorus nigritus* (Fabricius)
- Ipomoea purpurea* (L.) Roth (Convolvulaceae) *Cassida circumdata* Herbst, *Chaetocnema confinis* Crotch, *Charidotella sexpunctata* (Fabricius), *Deloyala guttata* (Olivier), *Epitrix fasciata* Blatchley, *Jonthonota nigripes* (Olivier)
- Ipomoea reptans* Poir. (Convolvulaceae) (see *Ipomoea aquatica* Forssk.)
- Ipomoea sagittata* Poir. (Convolvulaceae) *Floridocassis repudiata* (Suffrian)
- Ipomoea stans* Cav. (Convolvulaceae) *Zygogramma piceicollis* (Stål)
- Ipomoea tricolor* Cav. (Convolvulaceae) *Charidotella sexpunctata* (Fabricius), *Chelymorpha cassidea* (Fabricius)
- Ipomoea trifida* (Kunth) G. Don (Convolvulaceae) *Charidotella sexpunctata* (Fabricius), *Chelymorpha cribraria* (Fabricius)
- Ipomoea triloba* L. (Convolvulaceae) *Cassida circumdata* Herbst
- Ipomoea wolcottiana* Rose (Convolvulaceae) *Charidotella bifossulata* (Boheman), *Microctenochira bonvouloiri* (Boheman)
- Ipomoea* sp. (Convolvulaceae) *Charidotella ormondensis* (Blatchley), *Graphops tenuis* Blake, *Hilarocassis exclamationis* (Linnaeus), *Lema daturaphila* Kogan & Goeden, *Leptinotarsa decemlineata* (Say), *Metriorhina bilimeki* (Spaeth), *Ophraella communis* LeSage, *Oulema palustris* (Blatchley), *Paria quadrinotata* (Say), *Phyllotreta striolata* (Fabricius), *Psylliodes punctulatus* Melsheimer
- Iresine diffusa* Humb. & Bonpl. ex Willd. (Amaranthaceae) *Disonychia collata* (Fabricius), *D. conjugata* (Fabricius), *D. xanthomelas* (Dalman)
- Iris* (see *Iris*)
- Iris missouriensis* Nutt. (Iridaceae) *Plateumaris nitida* (Germar)
- Iris sibirica* L. (Iridaceae) *Aphthona czwalinae* Weise, *A. nigriscutis* Foudras
- Iris versicolor* L. (Iridaceae) *Donacia tuberculata* Lacordaire, *Neochlamisus bebbianae* (Brown), *Orsodacne atra* (Ahrens), *Plateumaris rufa* (Say), *Systema frontalis* (Fabricius)
- Iris xiphium* L. (Iridaceae) *Liliocercis lilii* (Scopoli)
- Iris* sp. (Iridaceae) *Brachypnoea puncticollis* (Say), *Metriorrhina morula* (LeConte)

Irish potato	(see <i>Solanum tuberosum</i> L.)
Ironweed	(see <i>Vernonia</i>)
Ironwood	(see <i>Ostrya virginiana</i> (Mill.) K. Koch)
<i>Isatis lucitanica</i> L. (Brassicaceae)	<i>Psylliodes chrysocephalus</i> (Linnaeus)
<i>Isatis tinctoria</i> L. (Brassicaceae)	<i>Phyllotreta punctulata</i> (Marsham), <i>Psylliodes chrysocephalus</i> (Linnaeus)
<i>Isocoma menziesii</i> (Hook. & Arn.) G. Nesom (Asteraceae)	<i>Cryptocephalus spurcus</i> LeConte, <i>Monoxia apicalis</i> Blake, <i>M. schizonycha</i> Blake, <i>Myochrous longulus</i> LeConte
<i>Isocoma veneta</i> (Kunth) Greene (Asteraceae)	<i>Coscinoptera aeneipennis</i> (LeConte), <i>Cryptocephalus spurcus</i> LeConte, <i>Exema conspersa</i> (Mannerheim), <i>Monoxia sordida</i> (LeConte)
<i>Isocoma wrightii</i> (A. Gray) Rydb. (Asteraceae)	<i>Trirhabda flavolimbata</i> (Mannerheim)
<i>Isocoma</i> sp. (Asteraceae)	<i>Disonycha glabrata</i> (Fabricius)
Italian prune	(see <i>Prunus domestica</i> L.)
<i>Itea virginica</i> L. (Grossulariaceae)	<i>Disonycha leptolineata</i> Blatchley
<i>Iva annua</i> L. (Asteraceae)	<i>Ophraella notulata</i> (Fabricius)
<i>Iva axillaris</i> Pursh (Asteraceae)	<i>Monoxia sordida</i> (LeConte), <i>Ophraella communis</i> LeSage, <i>O. nuda</i> LeSage, <i>Systema blanda</i> Melsheimer, <i>Zygogramma conjuncta</i> (Rogers)
<i>Iva ciliata</i> Willd. (Asteraceae)	<i>Colaspis brunnea</i> (Fabricius)
<i>Iva frutescens</i> L. (Asteraceae)	<i>Exema elliptica</i> Karren, <i>Ophraella communis</i> LeSage, <i>O. conferta</i> (LeConte), <i>O. notulata</i> (Fabricius), <i>O. nuda</i> LeSage, <i>O. slobodkini</i> Futuyma, <i>Paria aterrima</i> (Olivier), <i>Trirhabda virgata</i> LeConte
<i>Iva oraria</i> Bartlett (Asteraceae)	(see <i>Iva frutescens</i> L.)
<i>Iva xanthifolia</i> Nutt. (Asteraceae)	<i>Diabrotica barberi</i> Smith & Lawrence, <i>Epitrix cucumeris</i> (Harris), <i>E. tuberosa</i> Gentner, <i>Systema blanda</i> Melsheimer
<i>Iva</i> sp. (Asteraceae)	<i>Altica marevagans</i> Horn, <i>Diabrotica virgifera</i> LeConte
<i>Ixora quadrifida</i> (L.) Soják (Caryophyllaceae)	<i>Cassida azurea</i> Fabricius
<i>Ixora</i>	(see <i>Ixora</i>)
<i>Ixora coccinea</i> L. (Rubiaceae)	<i>Colaspis favosa</i> Say
<i>Ixora</i> sp. (Rubiaceae)	<i>Rhabdopterus bowditchi</i> Barber
Jaboticaba	(see <i>Myrciaria</i>)
<i>Jacaranda</i> sp. (Bignoniaceae)	<i>Disonycha fumata</i> (LeConte)
Jackbean	(see <i>Canavalia</i>)
Jack pine	(see <i>Pinus banksiana</i> Lamb.)
<i>Jacquemontia cumanensis</i> (Kunth) Kuntze (Convolvulaceae)	<i>Hilarocassis exclamationis</i> (Linnaeus)
<i>Jacquemontia</i> sp. (Convolvulaceae)	<i>Cerotoma trifurcata</i> (Forster)
Jamestown weed	(see <i>Datura</i>)
Japan clover	(see <i>Lespedeza striata</i> (Thunb.) Hook. & Arnold)
Japanese chestnut	(see <i>Castanea crenata</i> Sieb. & Zucc.)
Japanese clover	(see <i>Lespedeza striata</i> (Thunb.) Hook. & Arnold)
Japanese elm	(see <i>Ulmus davidiana</i> Planch., <i>U. japonica</i> (Rehder) Sarg.)
Japanese false-brome	(see <i>Brachypodium pinnatum</i> (L.) Beauv.)
Japanese honeysuckle	(see <i>Lonicera japonica</i> Thunb. ex Murray)
Japanese lantern	(see <i>Physalis alkekengi</i> L.)
Japanese turnip	(see <i>Brassica rapa</i> L.)
Jersey tea	(see <i>Ceanothus americanus</i> L.)
Jerusalem cherry	(see <i>Solanum pseudocapsicum</i> L.)
Jerusalem-cherry	(see <i>Solanum pseudocapsicum</i> L.)
Jim Hill mustard	(see <i>Sisymbrium altissimum</i> L.)
Jimson weed	(see <i>Datura</i>)
Jimson weed	(see <i>Datura</i>)
Johnson grass	(see <i>Sorghum halepense</i> (L.) Pers.)
<i>Juglans ailanthifolia</i> Carr. (Juglandaceae)	(see <i>Juglans sieboldiana</i> Maxim.)
<i>Juglans cinerea</i> L. (Juglandaceae)	<i>Capraita circumdata</i> (Randall), <i>Eusattoderia thoracica</i> (Melsheimer), <i>Neochlamisus bebbianae</i> (Brown), <i>Paria aterrima</i> (Olivier), <i>P. canella</i> (Fabricius), <i>P. fragariae</i> Wilcox, <i>P. quadrinotata</i> (Say)

Leaf Beetles Listed by Plants

- Juglans microcarpa* Berland. (Juglandaceae) *Neochlamisus bebbianae* (Brown)
- Juglans nigra* L. (Juglandaceae) *Anomoea laticlavata* (Forster), *Babia quadriguttata* (Olivier), *Brachypnoea puncticollis* (Say), *Colaspis favosa* Say, *Coleothorpa dominicana* (Fabricius), *Cryptocephalus badius* Suffrian, *C. guttulatus* Olivier, *C. leucomelas* Suffrian, *C. quadruplex* Newman, *Disonycha triangularis* (Say), *Neochlamisus bebbianae* (Brown), *Odontota dorsalis* (Thunberg), *Pachybrachis subfasciatus* LeConte, *Paria canella* (Fabricius), *P. quadrinotata* (Say), *Scelolyperus liriophilus* Wilcox, *Tymnes metasternalis* (Crotch)
- Juglans regia* L. (Juglandaceae) *Bassaricus mammifer* (Newman), *Brachypnoea puncticollis* (Say), *Chaetocnema confinis* Crotch, *Diabrotica undecimpunctata* Mannerheim, *Epitrix subcrinita* (LeConte), *Paria canella* (Fabricius), *P. quadrinotata* (Say)
- Juglans rupestris* Engelm. ex Torr. (Juglandaceae) (see *Juglans microcarpa* Berland.)
- Juglans sieboldiana* Maxim. (Juglandaceae) *Metachroma luridum* (Olivier), *Paria canella* (Fabricius), *P. quadrinotata* (Say)
- Juglans* sp. (Juglandaceae) *Anomoea rufifrons* (Lacordaire), *Cryptocephalus castaneus* LeConte, *Paria quadriguttata* LeConte, *P. sexnotata* (Say), *Phyllotreta zimmermanni* (Crotch), *Systema sexnotata* Fall, *Tymnes tricolor* (Fabricius), *Xanthonia striata* Staines & Weisman, *X. vagans* (LeConte)
- Juncus affinis* R. Brown (Juncaceae) (see *J. alpinus* Vill.)
- Juncus alpinus* Vill. (Juncaceae) *Plateumaris metallica* (Ahrens)
- Juncus torreyi* Coville (Juncaceae) *Chaetocnema pulicaria* Melsheimer
- Juncus* sp. (Juncaceae) *Altica subplicata* LeConte, *Chaetocnema irregularis* LeConte, *C. opulenta* Horn, *Donacia caerulea* Olivier, *D. porosicollis* Lacordaire, *D. subtilis* Kunze, *Myochrous whitei* Blake, *Pachybrachis hepaticus* (Melsheimer), *P. nigricornis* (Say), *Plateumaris flavipes* (Kirby), *P. nitida* (Germar), *P. pusilla* (Say), *Prasocuris vittata* (Olivier), *Scelolyperus nigrocyanus* (LeConte)
- Juneberry (see *Amelanchier laevis* Wiegand)
- June grass (see *Poa pratensis* L.)
- Juniper (see *Juniperus*)
- Juniperus ashei* Buchholz (Cupressaceae) *Xanthonia vagans* (LeConte)
- Juniperus communis* L. (Cupressaceae) *Paria canella* (Fabricius), *P. sexnotata* (Say)
- Juniperus deppeana* Steud. (Cupressaceae) *Brachypnoea texana* (Schaeffer)
- Juniperus horizontalis* Moench (Cupressaceae) *Paria sexnotata* Say
- Juniperus mexicanus* Schltdl. & Cham. (Cupressaceae) (see *Juniperus deppeana* Steud.)
- Juniperus occidentalis* Hook. (Cupressaceae) *Glyptoscelis illustris* Crotch, *G. juniperi* Blake, *Thricolema anomala* Crotch
- Juniperus osteosperma* (J. Torr.) Little (Cupressaceae) *Chaetocnema difficilis* White
- Juniperus phoenicea* L. (Cupressaceae) *Longitarsus flavicornis* (Stephens), *L. succineus* (Foudras), *Phyllotreta cruciferae* (Goeze)
- Juniperus scopulorum* Sarg. (Cupressaceae) *Glyptoscelis sequoiae* Blaisdell, *Phyllotreta albionica* (LeConte)
- Juniperus utahensis* (Engelm.) Lemmon (Cupressaceae) (see *Juniperus osteosperma* (J. Torr.) Little)
- Juniperus virginiana* L. (Cupressaceae) *Cryptocephalus schreibersii* Suffrian, *Paria sexnotata* (Say)
- Juniperus* sp. (Cupressaceae) *Altica ambiens* LeConte, *Calligrapha alni* Schaeffer, *Colaspidea smaragdula* (LeConte), *Diabrotica virgifera* LeConte, *Disonycha discoidea* (Fabricius), *Glyptoscelis longior* LeConte, *G. vandykei* Krauss, *Metachroma suturale* LeConte, *Pachybrachis cylindricus* Bowditch, *Paria quadrinotata* (Say), *Spintherophyta violaceipennis* (Horn), *Syneta ferruginea* (Germar), *Tymnes metasternalis* (Crotch)
- Jussiaea* sp. (Onagraceae) (see *Ludwigia*)
- Justicia americana* (L.) Vahl. (Acanthaceae) *Systema frontalis* (Fabricius)
- Kaffir-corn (see *Sorghum bicolor* (L.) Moench)
- Kale (see *Brassica*)
- Kallstroemia grandiflora* J. Torr. ex A. Gray (Zygophyllaceae) *Chaetocnema prolata* White, *Leptinotarsa peninsularis* (Horn), *L. tumamoca* Tower
- Kallstroemia hirsutissima* Vail (Zygophyllaceae) *Colaspis favosa* Say
- Kallstroemia rosei* Rydb. (Zygophyllaceae) *Leptinotarsa tlascalana* Stål
- Kalmia angustifolia* L. (Ericaceae) *Altica kalmiae* (Melsheimer), *Cryptocephalus gibbicollis* Haldeman, *Tricholochmaea cavicollis* (LeConte), *T. kalmiae* (Fall)

<i>Kalmia glauca</i> Ait. (Ericaceae)	<i>Altica ignita</i> Illiger, <i>A. kalmiae</i> (Melsheimer)
<i>Kalmia latifolia</i> L. (Ericaceae)	<i>Altica ignita</i> Illiger, <i>A. kalmiae</i> (Melsheimer), <i>A. viridana</i> Schaeffer, <i>Brachypnoea margaretae</i> (Schultz), <i>Tricholochmaea kalmiae</i> (Fall)
<i>Kalmia</i> sp. (Ericaceae)	<i>Baliosus nervosus</i> (Panzer), <i>Crepidodera nana</i> (Say), <i>Cryptocephalus mutabilis</i> Melsheimer, <i>Dibolia melampyri</i> Parry, <i>Neochlamisus comptoniae</i> (Brown), <i>Octotoma plicatula</i> (Fabricius), <i>Triachus cerinus</i> LeConte
<i>Karwinskia humboldtiana</i> (Willd. ex Roem. & Schult.) Zucc. (Rhamnaceae)	<i>Coraia subcyanescens</i> (Schaeffer), <i>Miraces aeneipennis</i> Jacoby
<i>Keckiella breviflora</i> (Lindl.) Straw (Scrophulariaceae)	<i>Dibolia californica</i> Parry
Kentucky bluegrass	(see <i>Poa pratensis</i> L.)
Kieffer pear	(see <i>Pyrus communis</i> L.)
Kilmarnock willow	(see <i>Salix caprea</i> L.)
King devil hawkweed	(see <i>Hieracium piloselloides</i> Vill.)
Klamathweed	(see <i>Hypericum perforatum</i> L.)
Klondike strawberry	(see <i>Fragaria virginiana</i> Mill.)
<i>Knautia purpurea</i> (Vill.) Borbás (Dipsacaceae)	<i>Longitarsus luridus</i> (Scopoli)
Knotgrass	(see <i>Paspalum</i>)
Knotweed	(see <i>Polygonum</i>)
Koa	(see <i>Racosperma koa</i> (A. Gray) Pedley)
<i>Kochia prostrata</i> (L.) C. Schrad. (Chenopodiaceae)	<i>Psylliodes punctulatus</i> Melsheimer
<i>Kochia scoparia</i> (L.) Schrad. (Chenopodiaceae)	<i>Diabrotica longicornis</i> (Say), <i>D. virgifera</i> (LeConte), <i>Epitrix cucumeris</i> (Harris), <i>E. tuberosa</i> Gentner, <i>Systema blanda</i> Melsheimer
<i>Kochia</i> sp. (Chenopodiaceae)	<i>Monoxia angularis</i> (LeConte)
<i>Koeleria formosana</i> Lxm. (Sapindaceae)	<i>Rhabdopterus picipes</i> (Olivier)
<i>Koeleria paniculata</i> Lxm. (Sapindaceae)	<i>Rhabdopterus picipes</i> (Olivier)
Kohlrabi	(see <i>Brassica oleracea</i> L.)
<i>Kosteletzkya</i> sp. (Malvaceae)	<i>Chaetocnema quadricollis</i> Schwarz
<i>Krigia amplexicaulis</i> Nutt. (Asteraceae)	<i>Diabrotica undecimpunctata</i> Mannerheim
Kudzu	(see <i>Pueraria montana</i> (Lour.) Merr.)
<i>Kummerowia stipulacea</i> (Maxim.) Makino (Fabaceae)	<i>Colaspis brunnea</i> (Fabricius)
<i>Kummerowia striata</i> (Thunb.) Schindl. (Fabaceae)	(see <i>Lespedeza striata</i> (Thunb.) Hook. & Arnold)
<i>Lablab purpureus</i> (L.) Sweet (Fabaceae)	<i>Ceratomyza ruficornis</i> (Olivier), <i>Diabrotica balteata</i> LeConte
<i>Laburnum anagyroides</i> Medik. (Fabaceae)	<i>Odontota dorsalis</i> (Thunberg)
<i>Laburnum x watereri</i> Dippel (Fabaceae)	<i>Odontota dorsalis</i> (Thunberg)
<i>Laburnum</i> sp. (Fabaceae)	<i>Sumitrosis rosea</i> (Weber)
<i>Lachnanthes tinctoria</i> (Walt. ex Gmel.) S. Ell. (Haemodoraceae)	<i>Systema frontalis</i> (Fabricius)
<i>Lactuca canadensis</i> L. (Asteraceae)	<i>Systema frontalis</i> (Fabricius)
<i>Lactuca sativa</i> L. (Asteraceae)	<i>Aphthona nigriscutis</i> Foudras, <i>Chaetocnema ectypa</i> Horn, <i>Cryptocephalus trizonatus</i> Suffrian, <i>Diabrotica balteata</i> LeConte, <i>D. undecimpunctata</i> Mannerheim, <i>Disonycha collata</i> (Fabricius), <i>Epitrix cucumeris</i> (Harris), <i>E. fuscata</i> Crotch, <i>E. tuberosa</i> Gentner, <i>Leptinotarsa decemlineata</i> (Say), <i>Phaedon cyanescens</i> Stål, <i>Phyllotreta pusilla</i> Horn, <i>P. striolata</i> (Fabricius), <i>Psylliodes chalcomerus</i> (Illiger), <i>P. convexior</i> LeConte, <i>Systema blanda</i> Melsheimer, <i>Zygogramma piceicollis</i> (Stål), <i>Z. signatipennis</i> (Stål)
<i>Lactuca scariola</i> L. (Asteraceae)	(see <i>Lactuca serriola</i> L.)
<i>Lactuca serriola</i> L. (Asteraceae)	<i>Diabrotica cristata</i> (Harris), <i>D. undecimpunctata</i> Mannerheim, <i>Leptinotarsa decemlineata</i> (Say), <i>Zygogramma suturalis</i> (Fabricius)
<i>Lactuca</i> sp. (Asteraceae)	<i>Altica carduorum</i> Guérin-Méneville, <i>A. ignita</i> Illiger, <i>A. litigata</i> Fall, <i>Asphaera lustrans</i> (Crotch), <i>Blepharida rhois</i> (Forster), <i>Diabrotica virgifera</i> LeConte, <i>Disonycha leptolineata</i> Blatchley, <i>D. uniguttata</i> (Say), <i>Entomoscelis americana</i> Brown, <i>Epitrix fasciata</i> Blatchley, <i>Lema daturaphila</i> Kogan & Goeden, <i>L. opulenta</i> Gemminger & Harold, <i>Metachroma floridanum</i> Crotch, <i>Neolema sexpunctata</i> (Olivier), <i>Ophraella communis</i> LeSage, <i>Phyllotreta albionica</i> (LeConte), <i>P. conjuncta</i> Gentner, <i>P. cruciferae</i> (Goeze), <i>Plagiometriona clavata</i> (Fabricius), <i>Rhabdopterus bottimeri</i> Barber, <i>Trirhabda geminata</i> Horn
<i>Lagasea mollis</i> Cav. (Asteraceae)	<i>Colaspis brunnea</i> (Fabricius)
<i>Lagenaria siceraria</i> (Mol.) Standl. (Cucurbitaceae)	<i>Acalymma vittatum</i> (Fabricius), <i>Diabrotica longicornis</i> (Say), <i>D. undecimpunctata</i> Mannerheim

Leaf Beetles Listed by Plants

<i>Lagerstroemia indica</i> L. (Lythraceae)	<i>Altica ignita</i> Illiger, <i>A. litigata</i> Fall, <i>Colaspis favosa</i> Say, <i>Lysathia ludoviciana</i> (Fall), <i>Neogalerucella californiensis</i> (Linnaeus), <i>N. pusilla</i> (Duftschmid), <i>Systema blanda</i> Melsheimer, <i>S. frontalis</i> (Fabricius)
<i>Laguncularia racemosa</i> (L.) Gaertn. (Combretaceae)	<i>Chaetocnema brunnescens</i> Horn, <i>Cryptocephalus nigrocinctus</i> Suffrian, <i>Metachroma clarkei</i> Blake
Lambsquarter goosefoot	(see <i>Chenopodium album</i> L.)
Lamb's quarters	(see <i>Chenopodium album</i> L.)
<i>Lamium album</i> L. (Lamiaceae)	<i>Chrysolina fastuosa</i> (Scopoli)
<i>Lamium amplexicaule</i> L. (Lamiaceae)	<i>Systema blanda</i> Melsheimer
<i>Lamium maculatum</i> (L.) L. (Lamiaceae)	<i>Chrysolina fastuosa</i> (Scopoli)
<i>Lamium</i> sp. (Lamiaceae)	<i>Chrysolina staphylaea</i> (Linnaeus)
Landino clover	(see <i>Trifolium repens</i> L.)
<i>Lantana camara</i> L. (Verbenaceae)	<i>Neolochmaea oblitterata</i> (Olivier), <i>Octotoma championi</i> Baly, <i>O. plicatula</i> (Fabricius), <i>O. scabripennis</i> Guérin-Méneville, <i>Uroplata girardi</i> Pic
<i>Lantana glandulosissima</i> Hayek (Verbenaceae)	<i>Octotoma scabripennis</i> Guérin-Méneville
<i>Lantana hispida</i> Kunth (Verbenaceae)	<i>Octotoma championi</i> Baly
<i>Lantana involucrata</i> L. (Verbenaceae)	<i>Omophoita cyanipennis</i> (Fabricius)
<i>Lantana macropoda</i> J. Torr. (Verbenaceae)	<i>Diabrotica undecimpunctata</i> Mannerheim
<i>Lantana montevidensis</i> (Spreng.) Briq. (Verbenaceae)	<i>Uroplata girardi</i> Pic
<i>Lantana trifolia</i> L. (Verbenaceae)	<i>Octotoma championi</i> Baly, <i>Uroplata girardi</i> Pic
<i>Lantana urticoides</i> Hayek (Verbenaceae)	<i>Kuschelina petaurista</i> (Fabricius)
<i>Laportea canadensis</i> (L.) Wedd. (Urticaceae)	<i>Cerotoma trifurcata</i> (Forster), <i>Sumitrosis rosea</i> (Weber)
<i>Lappa communis</i> (Asteraceae)	(see <i>Arctium lappa</i> L.)
<i>Lappa</i> sp. (Asteraceae)	(see <i>Arctium</i>)
<i>Lappula deflexa</i> (Wahlenb.) Garcke (Boraginaceae)	<i>Longitarsus quadriguttatus</i> (Pontoppidan)
<i>Lappula echinata</i> Gilib. (Boraginaceae)	(see <i>Lappula squarrosa</i> (Retz) Dumort.)
<i>Lappula squarrosa</i> (Retz) Dumort. (Boraginaceae)	<i>Longitarsus quadriguttatus</i> (Pontoppidan), <i>Psylliodes punctulata</i> Melsheimer
Larch	(see <i>Larix</i>)
<i>Larix laricina</i> (Du Roi) K. Koch (Pinaceae)	<i>Calligrapha multipunctata</i> (Say), <i>Syneta ferruginea</i> (Germar)
<i>Larix</i> sp. (Pinaceae)	<i>Bromius obscurus</i> (Linnaeus), <i>Microrhopala excavata</i> (Olivier), <i>Plagiodera versicolora</i> (Laicharting), <i>Plateumaris rufa</i> (Say), <i>Trirhabda virgata</i> LeConte
<i>Larrea divaricata</i> Cav. (Zygophyllaceae)	<i>Androlyperus incisus</i> Schaeffer, <i>Chlamisus flavidus</i> Karren, <i>Coleothorpa mucorea</i> (LeConte), <i>Cryptocephalus pallidicinctus</i> Fall, <i>Exema deserti</i> Pierce, <i>Neochlamisus moestificus</i> (Lacordaire), <i>N. scabripennis</i> (Schaeffer), <i>N. subelatus</i> (Schaeffer), <i>N. velutinus</i> Karren, <i>Pachybrachis mellitus</i> Bowditch, <i>P. xanti</i> Crotch
<i>Larrea tridentata</i> (Sesse & Moçifio ex DC.) Coville (Zygophyllaceae)	<i>Coleorozena vittata</i> (LeConte), <i>Coleothorpa axillaris</i> (LeConte), <i>Cryptocephalus cerinus</i> White, <i>Exema deserti</i> Pierce, <i>Neochlamisus scabripennis</i> (Schaeffer), <i>N. subelatus</i> (Schaeffer), <i>Pachybrachis desertus</i> Fall, <i>P. mellitus</i> Bowditch, <i>P. xantholucens</i> Fall, <i>P. xanti</i> Crotch, <i>Saxinis saucia</i> LeConte, <i>Trirhabda luteocincta</i> (LeConte), <i>T. pubicollis</i> Blake
<i>Larrea</i> sp. (Zygophyllaceae)	<i>Coleorozena alicula</i> (Fall), <i>Cryptocephalus spurcus</i> LeConte, <i>Neochlamisus gibbosus</i> (Fabricius)
<i>Lathyrus hirsutus</i> L. (Fabaceae)	<i>Diabrotica undecimpunctata</i> Mannerheim
<i>Lathyrus japonicus</i> Willd. (Fabaceae)	<i>Cerotoma trifurcata</i> (Forster), <i>Cryptocephalus calidus</i> Suffrian
<i>Lathyrus odoratus</i> L. (Fabaceae)	<i>Diabrotica undecimpunctata</i> Mannerheim
<i>Lathyrus sativus</i> L. (Fabaceae)	<i>Diabrotica undecimpunctata</i> Mannerheim
<i>Lathyrus tingitamus</i> L. (Fabaceae)	<i>Diabrotica undecimpunctata</i> Mannerheim
<i>Lathyrus</i> sp. (Fabaceae)	<i>Chelymorpha cassidea</i> (Fabricius)
Laurel	(see <i>Kalmia</i> and similar genera)
Laurel-leaved willow	(see <i>Salix pentandra</i> L.)
<i>Lavandula</i> sp. (Lamiaceae)	<i>Omophoita cyanipennis</i> (Fabricius)
<i>Lavatera arborea</i> L. (Malvaceae)	<i>Pachybrachis hybridus</i> Suffrian
Lavender	(see <i>Lavandula</i>)
Leadplant	(see <i>Amorpha</i>)

- Leafy spurge (see *Euphorbia esula* L.)
- Leatherleaf (see *Chamaedaphne calyculata* (L.) Moench)
- Lecythis elliptica* Kunth (Lecythidaceae) (see *Lecythis minor* Jacq.)
- Lecythis minor* Jacq. (Lecythidaceae) *Hilarocassis exclamationis* (Linnaeus)
- Ledum groenlandicum* Oeder (Ericaceae) *Capraita circumdata* (Randall)
- Lemaireocereus thurberi* (Engelm.) N. L. Britt. & Rose (Cactaceae) *Saxinis saucia* LeConte
- Lemna* sp. (Lemnaceae) *Neohaemonia melsheimeri* (Lacordaire)
- Lemon (see *Citrus limon* (L.) Burm. f.)
- Lenten rose (see *Helleborus orientalis* Lam.)
- Leonurus sibiricus* L. (Lamiaceae) *Epitrix cucumeris* (Harris)
- Leonurus* sp. (Lamiaceae) *Chrysolina fastuosa* (Scopoli)
- Lepachys* sp. (Asteraceae) (see *Ratibida*)
- Lepidium alyssoides* A. Gray (Brassicaceae) (see *Lepidium montanum* Nutt.)
- Lepidium austrinum* Small (Brassicaceae) *Phyllotreta aeneicollis* (Crotch)
- Lepidium campestre* (L.) R. Br. (Brassicaceae) *Phyllotreta bipustulata* (Fabricius), *P. cruciferae* (Goeze), *P. punctulata* (Marsham), *P. striolata* (Fabricius), *P. undulata* (Kutschera), *P. zimmermanni* (Crotch), *Psylliodes napi* (Fabricius), *P. punctulatus* Melsheimer
- Lepidium densiflorum* Schrad. (Brassicaceae) *Entomoscelis americana* Brown, *Phyllotreta cruciferae* (Goeze), *P. striolata* (Fabricius), *Psylliodes punctulatus* Melsheimer
- Lepidium draba* L. (Brassicaceae) *Phyllotreta cruciferae* (Goeze), *P. undulata* (Kutschera)
- Lepidium montanum* Nutt. (Brassicaceae) *Chaetocnema denticulata* (Illiger), *Diabrotica undecimpunctata* Mannerheim, *Glyptina cerina* (LeConte), *Monoxia puberula* Blake, *Phyllotreta albionica* (LeConte), *P. constricta* Smith
- Lepidium pubicarpum* A. Nelson (Brassicaceae) *Phyllotreta pusilla* Horn
- Lepidium ramosissimum* A. Nels. (Brassicaceae) *Phyllotreta cruciferae* (Goeze), *Psylliodes punctulatus* Melsheimer
- Lepidium ruderae* L. (Brassicaceae) *Phyllotreta cruciferae* (Goeze)
- Lepidium sativum* L. (Brassicaceae) *Diabrotica balteata* LeConte, *Phyllotreta striolata* (Fabricius), *P. zimmermanni* (Crotch), *Psylliodes chrysocephalus* (Linnaeus)
- Lepidium spathulatum* Phil. (Brassicaceae) *Phyllotreta oregonensis* (Crotch)
- Lepidium subulatum* L. (Brassicaceae) *Phyllotreta cruciferae* (Goeze), *P. undulata* (Kutschera)
- Lepidium virginicum* L. (Brassicaceae) *Diachus auratus* (Fabricius), *Epitrix cucumeris* (Harris), *Microtheca ochroloma* Stål, *M. picea* (Guérin-Méneville), *Phaedon viridis* Melsheimer, *Phyllotreta aeneicollis* (Crotch), *P. alberta* Chittenden, *P. bipustulata* (Fabricius), *P. cruciferae* (Goeze), *P. liebecki* Schaeffer, *P. oblonga* Chittenden, *P. pusilla* Horn, *P. striolata* (Fabricius), *P. zimmermanni* (Crotch), *Psylliodes convexior* LeConte, *P. elegans* Horn, *Systema blanda* Melsheimer
- Lepidium* sp. (Brassicaceae) *Galeruca browni* Blake, *G. externa* Say, *Phyllotreta conjuncta* Gentner, *P. ramosa* (Crotch), *P. robusta* LeConte, *Plateumaris pusilla* (Say)
- Lepidospartum squamatum* A. Gray (Asteraceae) *Exema conspersa* (Mannerheim), *E. deserti* Pierce
- Leptochloa filiformis* (Pers.) P. Beauv. (Poaceae) *Diabrotica balteata* LeConte
- Leptodactylon californicum* Hook. & Arn. (Polemoniaceae) *Scelolyperus pasadenae* Clark, *S. smaragdinus* (LeConte)
- Lespedeza (see *Lespedeza*)
- Lespedeza bicolor* Turcz. (Fabaceae) *Epitrix fasciata* Blatchley
- Lespedeza capitata* Michx. (Fabaceae) *Colaspis brunnea* (Fabricius), *Odontota horni* Smith
- Lespedeza cuneata* (Dum.-Cours.) G. Don (Fabaceae) *Cerotoma trifurcata* (Forster), *Chaetocnema fuscata* White, *Cryptocephalus calidus* Suffrian
- Lespedeza cyrtobotrya* Miq. (Fabaceae) *Epitrix fasciata* Blatchley
- Lespedeza hirta* (L.) Hornem. (Fabaceae) *Saxinis omogera* Lacordaire
- Lespedeza intermedia* (S. Wats. ex A. Gray) Britt. (Fabaceae) *Sumitrosis rosea* (Weber)
- Lespedeza juncea* (L.) Pers. (Fabaceae) *Epitrix fasciata* Blatchley
- Lespedeza sericea* Benth. (Fabaceae) (see *Lespedeza cuneata* (Dum.-Cours.) G. Don)
- Lespedeza striata* (Thunb.) Hook. & Arnold (Fabaceae) *Cerotoma trifurcata* (Forster), *Colaspis brunnea* (Fabricius), *Myochrous denticollis* (Say)

Leaf Beetles Listed by Plants

<i>Lespedeza violacea</i> (L.) Pers. (Fabaceae)	<i>Saxinis omogera</i> Lacordaire
<i>Lespedeza virginica</i> (L.) Britt. (Fabaceae)	<i>Bassareus lituratus</i> (Fabricius), <i>Epitrix fasciata</i> Blatchley, <i>Pachybrachis praeclarus</i> (Weise)
<i>Lespedeza</i> sp. (Fabaceae)	<i>Anomoea laticlavata</i> (Forster), <i>Brachypnoea puncticollis</i> (Say), <i>B. tristis</i> (Olivier), <i>Capraita thyamoides</i> (Crotch), <i>Chaetocnema denticulata</i> (Illiger), <i>Charidotella sexpunctata</i> (Fabricius), <i>Cryptocephalus venustus</i> Fabricius, <i>Diachus auratus</i> (Fabricius), <i>Epitrix fuscula</i> Crotch, <i>E. hirtipennis</i> (Melsheimer), <i>Luperaltica nigripalpis</i> (LeConte), <i>Octotoma plicatula</i> (Fabricius), <i>Ophraella cribrata</i> (LeConte), <i>O. notata</i> (Fabricius), <i>Pachybrachis femoratus</i> (Olivier), <i>P. hepaticus</i> (Melsheimer), <i>Phyllecthris dorsalis</i> (Olivier), <i>P. gentilis</i> (LeConte), <i>Psylliodes punctulatus</i> Melsheimer, <i>Systema blanda</i> Melsheimer, <i>S. elongata</i> (Fabricius), <i>Zygogramma suturalis</i> (Fabricius)
Lettuce	(see <i>Lactuca</i>)
<i>Leucaena glauca</i> Benth. (Fabaceae)	<i>Diachus auratus</i> (Fabricius)
<i>Leucaena leucocephala</i> (Lam.) De Wit (Fabaceae)	(see <i>Leucaena glauca</i> Benth.)
<i>Leucaena pulverulenta</i> (Schlecht.) Benth. (Fabaceae)	<i>Cryptocephalus trizonatus</i> Suffrian, <i>Diachus chlorizans</i> (Suffrian), <i>Griburius larvatus</i> Newman, <i>Megascelis texana</i> Linell, <i>Pachybrachis duryi</i> Fall, <i>P. latithorax</i> Clavareau
<i>Leucanthemum maximum</i> (Ramond) DC. (Asteraceae)	<i>Diabrotica undecimpunctata</i> Mannerheim, <i>Systema hudsonias</i> (Forster)
<i>Leucanthemum</i> x <i>superbum</i> (J. W. Ingram) Berg. ex Kent. (Asteraceae)	<i>Diabrotica undecimpunctata</i> Mannerheim, <i>Disonycha leptolineata</i> Blatchley
<i>Leucanthemum vulgare</i> Lam. (Asteraceae)	<i>Chrysolina staphylaea</i> (Linnaeus), <i>Cryptocephalus venustus</i> Fabricius, <i>Diabrotica undecimpunctata</i> Mannerheim, <i>Longitarsus jacobaeae</i> (Waterhouse), <i>L. succineus</i> (Foudras), <i>Systema blanda</i> Melsheimer, <i>S. frontalis</i> (Fabricius), <i>S. hudsonias</i> (Forster)
<i>Leucothoe racemosa</i> (L.) A. Gray (Ericaceae)	<i>Cryptocephalus incertus</i> Olivier
<i>Leymus cinereus</i> (Scribn. & Merr.) A. Löve (Poaceae)	<i>Altica prasina</i> LeConte
<i>Liatris aspera</i> Michx. (Asteraceae)	<i>Diabrotica undecimpunctata</i> Mannerheim
<i>Liatris graminifolia</i> Willd. (Asteraceae)	<i>Diabrotica cristata</i> (Harris)
<i>Liatris spicata</i> (L.) Willd. (Asteraceae)	<i>Diabrotica cristata</i> (Harris)
<i>Liatris</i> sp. (Asteraceae)	<i>Graphops floridana</i> Blake, <i>Ophraella notata</i> (Fabricius)
<i>Libocedrus decurrens</i> J. Torr. (Cupressaceae)	<i>Glyptoscelis albida</i> LeConte, <i>G. juniperi</i> Blake, <i>G. longior</i> LeConte, <i>G. yosemitae</i> Krauss, <i>Scelolyperus varipes</i> (LeConte), <i>Thricolema anomala</i> Crotch, <i>Tymnes oregonensis</i> (Crotch)
<i>Libocedrus</i> sp. (Cupressaceae)	<i>Glyptoscelis sequoiae</i> Blaisdell
<i>Licania michauxii</i> Prance (Chrysobalanaceae)	<i>Altica vaccinia</i> Blatchley
Licorice	(see <i>Glycyrrhiza</i>)
<i>Ligustrum ibota</i> Sieb. & Zucc. (Oleaceae)	<i>Acalymma vittatum</i> (Fabricius)
<i>Ligustrum japonicum</i> Thunb. (Oleaceae)	<i>Charidotella sexpunctata</i> (Fabricius), <i>Cryptocephalus trizonatus</i> Suffrian
<i>Ligustrum lucidum</i> Aiton (Oleaceae)	<i>Altica marevagans</i> Horn
<i>Ligustrum vulgare</i> L. (Oleaceae)	<i>Acalymma vittatum</i> (Fabricius), <i>Octotoma plicatula</i> (Fabricius)
<i>Ligustrum</i> sp. (Oleaceae)	<i>Lema trabeata</i> Lacordaire, <i>Trichaltica scabricula</i> (Crotch), <i>Typophorus nigratus</i> (Fabricius)
Lilac	(see <i>Syringa</i>)
<i>Lilium auratum</i> L. (Liliaceae)	<i>Liliocerus lilii</i> (Scopoli)
<i>Lilium candidum</i> L. (Liliaceae)	<i>Liliocerus lilii</i> (Scopoli)
<i>Lilium formosanum</i> Wallace (Liliaceae)	<i>Liliocerus lilii</i> (Scopoli)
<i>Lilium giganteum</i> Wallich (Liliaceae)	<i>Liliocerus lilii</i> (Scopoli)
<i>Lilium hansonii</i> Leicht ex Baker (Liliaceae)	<i>Liliocerus lilii</i> (Scopoli)
<i>Lilium henryi</i> Baker (Liliaceae)	<i>Chelymorpha cassidea</i> (Fabricius), <i>Liliocerus lilii</i> (Scopoli)
<i>Lilium lancifolium</i> Thunb. (Liliaceae)	<i>Liliocerus lilii</i> (Scopoli)
<i>Lilium longiflorum</i> Thunb. (Liliaceae)	<i>Liliocerus lilii</i> (Scopoli)
<i>Lilium martagon</i> L. (Liliaceae)	<i>Liliocerus lilii</i> (Scopoli)
<i>Lilium philadelphicum</i> L. (Liliaceae)	<i>Liliocerus lilii</i> (Scopoli)
<i>Lilium philippinense</i> Baker (Liliaceae)	<i>Liliocerus lilii</i> (Scopoli)
<i>Lilium regale</i> Wils. (Liliaceae)	<i>Liliocerus lilii</i> (Scopoli)

<i>Lilium speciosum</i> Thunb. (Liliaceae)	<i>Liliocerus lilii</i> (Scopoli)
<i>Lilium superbum</i> L. (Liliaceae)	<i>Liliocerus lilii</i> (Scopoli)
<i>Lilium testaceum</i> Lindl. (Liliaceae)	<i>Liliocerus lilii</i> (Scopoli)
<i>Lilium tigrinum</i> L. (Liliaceae)	(see <i>Lilium lancifolium</i> Thunb.)
<i>Lilium</i> sp. (Liliaceae)	<i>Diabrotica undecimpunctata</i> Mannerheim
Lily	(see <i>Lilium</i> and similar genera)
Lima bean	(see <i>Phaseolus lunatus</i> L.)
Lime	(see <i>Citrus aurantifolia</i> (Christm.) Swingle)
Lime-tree	(see <i>Tilia americana</i> L.)
<i>Limnanthes douglasii</i> R. Br. (Limnanthaceae)	<i>Phyllotreta cruciferae</i> (Goeze)
<i>Limonium sinuatum</i> (L.) P. Mill. (Plumbaginaceae)	<i>Phyllotreta striolata</i> (Fabricius)
<i>Linanthus nuttallii</i> (Gray) Green ex Milliken (Polemoniaceae)	<i>Pseudoluperus longulus</i> (LeConte), <i>Scelolyperus leontii</i> (Crotch), <i>Systema bitaeniata</i> (LeConte)
<i>Linaria</i> sp. (Scrophulariaceae)	<i>Phaedon prasinellus</i> (LeConte)
Linden	(see <i>Tilia</i>)
<i>Lindera benzoin</i> (L.) Blume (Lauraceae)	<i>Acalymma vittatum</i> (Fabricius), <i>Orsodacne atra</i> (Ahrens)
Linn	(see <i>Tilia</i>)
<i>Linum rupestre</i> (A. Gray) Engelm. ex A. Gray (Linaceae)	<i>Diabrotica undecimpunctata</i> Mannerheim
<i>Linum usitatissimum</i> L. (Linaceae)	<i>Aphthona abdominalis</i> (Duftschmid), <i>A. nigriscutis</i> Foudras, <i>Psylliodes chrysocephalus</i> (Linnaeus)
<i>Linum</i> sp. (Linaceae)	<i>Altica carduorum</i> Guérin-Ménéville, <i>Chaetocnema ectypa</i> Horn, <i>Epitrix cucumeris</i> (Harris), <i>Systema frontalis</i> (Fabricius)
<i>Lippia alba</i> (Mill.) N. E. Brown (Verbenaceae)	<i>Uroplata girardi</i> Pic
<i>Lippia berlandieri</i> Schauer (Verbenaceae)	<i>Pachybrachis femoratus</i> (Olivier)
<i>Lippia micromera</i> Schau. (Verbenaceae)	<i>Uroplata girardi</i> Pic
<i>Lippia umbellata</i> Cav. (Verbenaceae)	<i>Octotoma scabripennis</i> Guérin-Ménéville
<i>Lippia</i> sp. (Verbenaceae)	<i>Cyclotrypema furcata</i> (Olivier), <i>Kuschelina laeta</i> (Perbosc)
<i>Liquidambar styraciflua</i> L. (Hamamelidaceae)	<i>Systema marginalis</i> (Illiger)
<i>Liriodendron tulipifera</i> L. (Magnoliaceae)	<i>Disonycha glabrata</i> (Fabricius), <i>Tymnes tricolor</i> (Fabricius)
<i>Litchi chinensis</i> Sonn. (Sapindaceae)	<i>Charidotella sexpunctata</i> (Fabricius), <i>Exema gibber</i> (Fabricius), <i>Rhabdopterus bowditchi</i> Barber
<i>Lithocardium lockartii</i> Kuntze (Boraginaceae)	<i>Physonota alutacea</i> Boheman
<i>Lithospermum officinale</i> L. (Boraginaceae)	<i>Longitarsus quadriguttatus</i> (Pontoppidan)
<i>Lithospermum purpureoaceruleum</i> L. (Boraginaceae)	<i>Longitarsus luridus</i> (Scopoli)
Little bluestem	(see <i>Schizachyrium scoparium</i> (Michx.) Nash)
Live oak	(see <i>Quercus</i>)
Loblolly pine	(see <i>Pinus taeda</i> L.)
<i>Lobularia maritima</i> (L.) Desv. (Brassicaceae)	<i>Phyllotreta albionica</i> (LeConte), <i>P. cruciferae</i> (Goeze), <i>P. pusilla</i> Horn, <i>P. striolata</i> (Fabricius)
<i>Lobularia</i> sp. (Brassicaceae)	<i>Galeruca browni</i> Blake
Locoweed	(see <i>Astragalus</i> , <i>Oxytropis</i>)
Locust	(see <i>Gleditsia</i> , <i>Robinia</i>)
Lodgepole pine	(see <i>Pinus contorta</i> Dougl. ex Loudon)
<i>Lolium multiflorum</i> Lam. (Poaceae)	(see <i>Lolium perenne</i> L.)
<i>Lolium perenne</i> L. (Poaceae)	<i>Chaetocnema pulicaria</i> Melsheimer, <i>Oulema melanopus</i> (Linnaeus)
<i>Lolium</i> sp. (Poaceae)	<i>Diabrotica undecimpunctata</i> Mannerheim
<i>Lomatium</i> sp. (Apiaceae)	<i>Galeruca rudis</i> LeConte
Lombardy plum	(see <i>Prunus domestica</i> L.)
Lombardy poplar	(see <i>Populus nigra</i> L.)
London planetree	(see <i>Platanus x acerifolia</i> (Ait.) Willd.)
Longan	(see <i>Dimocarpus longan</i> Lour.)
Longleaf pine	(see <i>Pinus palustris</i> Mill.)
<i>Lonicera flava</i> Sims (Caprifoliaceae)	<i>Capraita circumdata</i> (Randall)
<i>Lonicera japonica</i> Thunb. ex Murray (Caprifoliaceae)	<i>Altica chalybea</i> Illiger, <i>Systema frontalis</i> (Fabricius)

Leaf Beetles Listed by Plants

<i>Lonicera</i> sp. (Caprifoliaceae)	<i>Crepidodera violacea</i> Melsheimer, <i>Epitrix cucumeris</i> (Harris), <i>Kuschelina tenuilineata</i> (Horn), <i>Rhabdopterus bottimeri</i> Barber
Loquat	(see <i>Eriobotrya japonica</i> (Thunb.) Lindl.)
<i>Lotus scoparius</i> (Nutt. ex Torr. & A. Gray) Ottley (Fabaceae)	<i>Coscinoptera aeneipennis</i> (LeConte), <i>Saxinis sonorensis</i> Jacoby
Love-apple	(see <i>Lycopersicon esculentum</i> Mill.)
Lowbush blueberry	(see <i>Vaccinium angustifolium</i> Benth.)
Low whortleberry bush	(see <i>Vaccinium corymbosum</i> L., <i>V. myrtillus</i> L.)
Lucerne	(see <i>Medicago sativa</i> L.)
<i>Ludwigia alternifolia</i> L. (Onagraceae)	<i>Colaspis suggona</i> Blake
<i>Ludwigia angustifolia</i> (Lam.) M. Gómez (Onagraceae)	<i>Omophoita cyanipennis</i> (Fabricius)
<i>Ludwigia erecta</i> (L.) Hara (Onagraceae)	<i>Omophoita cyanipennis</i> (Fabricius)
<i>Ludwigia octovalvis</i> (Jacq.) Raven (Onagraceae)	<i>Altica marevagans</i> Horn, <i>Lysathia ludoviciana</i> (Fall), <i>Omophoita cyanipennis</i> (Fabricius)
<i>Ludwigia palustris</i> (L.) Ell. (Onagraceae)	<i>Altica ignita</i> Illiger, <i>A. litigata</i> Fall
<i>Ludwigia peltoides</i> (H. B. K.) Raven (Onagraceae)	<i>Altica aeruginosa</i> LeConte
<i>Ludwigia peploides</i> (Kunth) Raven (Onagraceae)	<i>Altica litigata</i> Fall, <i>Lysathia ludoviciana</i> (Fall), <i>Systema frontalis</i> (Fabricius)
<i>Ludwigia polycarpa</i> Short & Peter (Onagraceae)	<i>Altica litigata</i> Fall
<i>Ludwigia suffruticosa</i> Walt. (Onagraceae)	(see <i>Ludwigia octovalvis</i> (Jacq.) Raven)
<i>Luffa acutangula</i> (L.) Roxb. (Cucurbitaceae)	<i>Diabrotica undecimpunctata</i> Mannerheim
<i>Luffa aegyptiaca</i> Mill. (Cucurbitaceae)	<i>Colaspis brunnea</i> (Fabricius), <i>Diabrotica balteata</i> LeConte, <i>D. undecimpunctata</i> Mannerheim
<i>Luffa cylindrica</i> (L.) Roemer (Cucurbitaceae)	(see <i>Luffa aegyptiaca</i> Mill.)
<i>Lunaria annua</i> L. (Brassicaceae)	<i>Phyllotreta cruciferae</i> (Goeze), <i>P. striolata</i> (Fabricius)
<i>Lunaria rediviva</i> L. (Brassicaceae)	<i>Psylliodes napi</i> (Fabricius)
Lupine	(see <i>Lupinus</i>)
<i>Lupinus arboreus</i> Sims (Fabaceae)	<i>Galeruca rudis</i> LeConte
<i>Lupinus argenteus</i> Pursh (Fabaceae)	<i>Galeruca rudis</i> LeConte
<i>Lupinus arizonicus</i> S. Wats. (Fabaceae)	<i>Androlyperus incisus</i> Schaeffer
<i>Lupinus caudatus</i> Kell. (Fabaceae)	<i>Pseudoluperus longulus</i> (LeConte), <i>Sceoluperus nigrocyaneus</i> (LeConte)
<i>Lupinus diffusus</i> Nutt. (Fabaceae)	<i>Microrhopala floridana</i> Schwarz, <i>Oulema cornuta</i> (Fabricius)
<i>Lupinus littoralis</i> Dougl. (Fabaceae)	<i>Galeruca rudis</i> LeConte
<i>Lupinus montanus</i> Kunth in H. B. K. (Fabaceae)	<i>Phaedon cyaneus</i> Stål, <i>Zygogramma piceicollis</i> (Stål)
<i>Lupinus parviflorus</i> Nutt. ex Hook. & Arn. (Fabaceae)	(see <i>Lupinus argenteus</i> Pursh)
<i>Lupinus</i> sp. (Fabaceae)	<i>Coleothorpa dominicana</i> (Fabricius), <i>Galeruca externa</i> Say, <i>Saxinis deserticola</i> Moldenke, <i>Sceoluperus graptoderoides</i> (Crotch)
Lychee	(see <i>Litchi chinensis</i> Sonn.)
<i>Lychnis x haageana</i> Lemaire (Caryophyllaceae)	<i>Cassida azurea</i> Fabricius
<i>Lycium andersonii</i> A. Gray (Solanaceae)	<i>Leptinotarsa haldemani</i> (Rogers)
<i>Lycium barbarum</i> L. (Solanaceae)	<i>Epitrix fasciata</i> Blatchley, <i>Leptinotarsa decemlineata</i> (Say), <i>L. haldemani</i> (Rogers), <i>Psylliodes affinis</i> (Paykull)
<i>Lycium berlandieri</i> Dunal (Solanaceae)	<i>Monoxia sordida</i> (LeConte)
<i>Lycium carolinianum</i> Walt. (Solanaceae)	<i>Monoxia batisia</i> Blatchley, <i>M. sordida</i> (LeConte)
<i>Lycium chinense</i> Mill. (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Lycium halimifolium</i> P. Mill. (Solanaceae)	(see <i>Lycium barbarum</i> L.)
<i>Lycium pallidum</i> Miers (Solanaceae)	<i>Epitrix fasciata</i> Blatchley, <i>Monoxia consputa</i> (LeConte), <i>M. sordida</i> (LeConte)
<i>Lycium ruthenicum</i> Murr. (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Lycium vulgare</i> Dunal (Solanaceae)	(see <i>Lycium barbarum</i> L.)
<i>Lycium</i> sp. (Solanaceae)	<i>Chaetocnema ectypa</i> Horn, <i>Epitrix subcrinita</i> (LeConte), <i>E. tuberosa</i> Gentner
<i>Lycopersicon esculentum</i> Mill. (Solanaceae)	<i>Acalymma trivittatum</i> (Melsheimer), <i>A.</i>

- vittatum* (Fabricius), *Agroiconota bivittata* (Say), *Altica litigata* Fall, *A. ulmi* Woods, *Brachypnoea rotundicollis* (Schaeffer), *Ceratomyza ruficornis* (Olivier), *Chaetocnema confinis* Crotch, *C. ectypa* Horn, *C. protensa* LeConte, *C. pulicaria* Melsheimer, *C. subconvexa* White, *Charidotella sexpunctata* (Fabricius), *Colaspis floridana* Schaeffer, *Cryptocephalus obsoletus* Germar, *C. venustus* Fabricius, *Deloyala guttata* (Olivier), *Diabrotica balteata* LeConte, *D. tibialis* Jacoby, *D. undecimpunctata* Mannerheim, *D. virgifera* LeConte, *Disomyza glabrata* (Fabricius), *D. leptolineata* Blatchley, *Epitrix brevis* Schwarz, *E. cucumeris* (Harris), *E. fasciata* Blatchley, *E. fuscata* Crotch, *E. hirtipennis* (Melsheimer), *E. similis* Gentner, *E. subcrinita* (LeConte), *E. tuberosa* Gentner, *Gratiana pallidula* (Boheman), *Hemiglyptus basalis* (Crotch), *Lema daturaphila* Kogan & Goeden, *L. nigrovittata* (Guérin-Méneville), *L. trivittata* Say, *Leptinotarsa decemlineata* (Say), *L. haldemani* (Rogers), *L. juncta* (Germar), *L. lineolata* (Stål), *L. rubiginosa* (Rogers), *Longitarsus varicornis* Suffrian, *Myochrous cyphus* Blake, *Omophoita cyanipennis* (Fabricius), *Phyllotreta albionica* (LeConte), *P. pusilla* Horn, *P. striolata* (Fabricius), *Plagiometriona clavata* (Fabricius), *Psylliodes affinis* (Paykull), *P. punctulatus* Melsheimer, *Strabala rotunda* Blake, *S. rufa* (Illiger), *Systema blanda* Melsheimer, *S. elongata* (Fabricius), *S. mitis* (LeConte)
- Lycopersicon glandulosum* C. H. Muller (Solanaceae) *Epitrix hirtipennis* (Melsheimer)
- Lycopersicon hirsutum* Dunal (Solanaceae) *Leptinotarsa decemlineata* (Say)
- Lycopersicon peruvianum* (L.) Mill. (Solanaceae) *Epitrix hirtipennis* (Melsheimer)
- Lycopersicon pimpinellifolium* (L.) Mill. (Solanaceae) *Epitrix hirtipennis* (Melsheimer), *Leptinotarsa decemlineata* (Say)
- Lycopersicon racemigerum* Lange (Solanaceae) *Leptinotarsa decemlineata* (Say)
- Lycopersicon* sp. (Solanaceae) *Disomyza fumata* (LeConte), *Typophorus nigritus* (Fabricius)
- Lycopus europaeus* L. (Lamiaceae) *Chrysolina staphylaea* (Linnaeus)
- Lycopus rubellus* Moench (Lamiaceae) *Systema frontalis* (Fabricius)
- Lyonia* sp. (Ericaceae) *Disomyza caroliniana* (Fabricius)
- Lysichiton americanus* Hulten & St. John (Araceae) *Plateumaris nitida* (Germar), *Plateumaris rufa* (Say)
- Lysichiton camtschaticense* (L.) Schott. (Araceae) *Donacia tuberculata* Lacordaire, *Phyllotreta striolata* (Fabricius), *Plateumaris metallica* (Ahrens), *P. nitida* (Germar), *P. rufa* (Say)
- Lysimachia nummularia* L. (Primulaceae) *Chaetocnema confinis* Crotch
- Lysimachia quadriflora* Sims (Primulaceae) *Cryptocephalus venustus* Fabricius
- Lysimachia terrestris* (L.) B.S.P. (Primulaceae) *Phyllotreta decorata* (Say), *Systema frontalis* (Fabricius)
- Lysimachia thyrsoflora* L. (Primulaceae) *Galerucella nymphalaeae* (Linnaeus)
- Lysimachia vulgaris* L. (Primulaceae) *Galerucella nymphalaeae* (Linnaeus), *Psylliodes picinus* (Marshall)
- Lythrum alatum* Pursh (Lythraceae) *Neogalerucella californiensis* (Linnaeus), *N. pusilla* (Duftschmid)
- Lythrum californicum* J. Torr. & A. Gray (Lythraceae) *Neogalerucella californiensis* (Linnaeus), *N. pusilla* (Duftschmid)
- Lythrum hyssopifolia* L. (Lythraceae) *Altica aeruginosa* LeConte, *Neogalerucella californiensis* (Linnaeus), *N. pusilla* (Duftschmid)
- Lythrum lineare* L. (Lythraceae) *Neogalerucella californiensis* (Linnaeus), *N. pusilla* (Duftschmid)
- Lythrum salicaria* L. (Lythraceae) *Altica litigata* Fall, *Aphthona abdominalis* (Duftschmid), *Chrysolina fastuosa* (Scopoli), *Galerucella nymphalaeae* (Linnaeus), *Neogalerucella californiensis* (Linnaeus), *N. pusilla* (Duftschmid), *Oulema melanopus* (Linnaeus), *Pachybrachis calcaratus* Fall, *Phyllotreta striolata* (Fabricius), *Psylliodes picinus* (Marshall)
- Lythrum virgatum* L. (Lythraceae) *Neogalerucella californiensis* (Linnaeus), *N. pusilla* (Duftschmid)
- Lythrum* sp. (Lythraceae) *Chrysolina staphylaea* (Linnaeus)
- Machaeranthera tanacetifolia* (Kunth) Nees (Asteraceae) *Zygogramma conjuncta* (Rogers)
- Madia elegans* D. Don ex Lindl. (Asteraceae) *Brachycoryna dolorosa* Van Dyke, *Sceololyperus curvipes* Wilcox, *S. megalurus* Wilcox
- Madia sativa* Mol. (Asteraceae) *Brachycoryna dolorosa* Van Dyke
- Magnolia* (see *Magnolia*)
- Magnolia virginiana* L. (Magnoliaceae) *Diabrotica undecimpunctata* Mannerheim, *Epitrix brevis* Schwarz, *Rhabdopterus picipes* (Olivier)
- Magnolia* sp. (Magnoliaceae) *Diabrotica virgifera* LeConte, *Octotoma*

Leaf Beetles Listed by Plants

<i>plicatula</i> (Fabricius)	
<i>Maianthemum canadense</i> Desf. (Liliaceae)	<i>Liliocerus lilii</i> (Scopoli)
<i>Maianthemum stellatum</i> (L.) Link (Liliaceae)	<i>Plateumaris nitida</i> (Germar)
<i>Maianthemum</i> sp. (Liliaceae)	<i>Plateumaris dubia</i> (Schaeffer)
Maize	(see <i>Zea mays</i> L.)
<i>Majorana syriaca</i> (L.) Rafin. (Lamiaceae)	<i>Longitarsus luridus</i> (Scopoli)
<i>Malachium aquaticum</i> (L.) Fr. (Caryophyllaceae)	<i>Cassida flaveola</i> Thunberg
<i>Malacothamnus fasciculatus</i> (Nutt.) E. Greene (Malvaceae)	<i>Stenopodius flavidus</i> Horn
<i>Malcolmia africana</i> (L.) R. Br. (Brassicaceae)	<i>Chaetocnema opulenta</i> Horn
Mallow	(see <i>Malva</i> and similar genera)
<i>Malus baccata</i> (L.) Borkh. (Rosaceae)	<i>Odontota dorsalis</i> (Thunberg)
<i>Malus coronaria</i> (L.) P. Mill. (Rosaceae)	<i>Odontota dorsalis</i> (Thunberg), <i>Paria</i> <i>canella</i> (Fabricius), <i>P. fragariae</i> Wilcox, <i>P. quadrinotata</i> (Say), <i>Syneta albida</i> LeConte
<i>Malus x domestica</i> Borkh. (Rosaceae)	(see <i>Malus sylvestris</i> P. Mill.)
<i>Malus glaucescens</i> Rehder (Rosaceae)	<i>Syneta albida</i> LeConte
<i>Malus pumila</i> Mill. (Rosaceae)	<i>Acalymma vittatum</i> (Fabricius)
<i>Malus sylvestris</i> P. Mill. (Rosaceae)	<i>Acalymma trivittatum</i> (Mannerheim), <i>A.</i> <i>vittatum</i> (Fabricius), <i>Agroiconota bivittata</i> (Say), <i>Altica chalybea</i> Illiger, <i>A. foliaceae</i> LeConte, <i>Baliosus</i> <i>nervosus</i> (Panzer), <i>Brachypnoea puncticollis</i> (Say), <i>B. tristis</i> (Olivier), <i>Calligrapha multipunctata</i> (Say), <i>Chaetocnema confinis</i> Crotch, <i>C. elongatula</i> Crotch, <i>C. pulicaria</i> Melsheimer, <i>Charidotella sexpunctata</i> (Say), <i>Chrysomela knabi</i> Brown, <i>C. scripta</i> Fabricius, <i>Colaspidea smaragdula</i> (LeConte), <i>Colaspis</i> <i>brunnea</i> (Fabricius), <i>C. favosa</i> Say, <i>C. hesperia</i> Blake, <i>Coleothorpa dominicana</i> (Fabricius), <i>Crepidodera</i> <i>nana</i> (Say), <i>Crioceris asparagi</i> (Linnaeus), <i>Cryptocephalus notatus</i> Fabricius, <i>C. trizonatus</i> Suffrian, <i>Derocrepis erythropus</i> (Melsheimer), <i>Diabrotica balteata</i> LeConte, <i>D. barberi</i> Smith & Lawrence, <i>D.</i> <i>longicornis</i> (Say), <i>D. undecimpunctata</i> Mannerheim, <i>D. virgifera</i> LeConte, <i>Diachus auratus</i> (Fabricius), <i>Dibolia borealis</i> Chevrolat, <i>Epitrix cucumeris</i> (Harris), <i>E. fuscata</i> Crotch, <i>E. hirtipennis</i> (Melsheimer), <i>Eusattodera thoracica</i> (Melsheimer), <i>Glyptina spuria</i> LeConte, <i>Glyptoscelis albida</i> LeConte, <i>G. alter-</i> <i>nata</i> Crotch, <i>G. cryptica</i> (Say), <i>G. longior</i> LeConte, <i>Longitarsus testaceus</i> (Melsheimer), <i>L. turbatus</i> Horn, <i>Margaridisa atriventris</i> (Melsheimer), <i>Metachroma angustulum</i> Crotch, <i>M. interruptum</i> (Say), <i>Odontota dorsalis</i> (Thunberg), <i>Orsodacne atra</i> (Ahrens), <i>Paria canella</i> (Fabricius), <i>P. fragariae</i> Wilcox, <i>P. quadrinotata</i> (Say), <i>Rhabdopterus picipes</i> (Olivier), <i>R. praetextus</i> (Say), <i>Sumitrosis rosea</i> (Weber), <i>Syneta albida</i> LeConte, <i>Systema blanda</i> Melsheimer, <i>S. frontalis</i> (Fabricius), <i>S. hudsonias</i> (Forster), <i>S.</i> <i>marginalis</i> (Illiger), <i>Tricholochmaea cavicollis</i> (LeConte), <i>Xanthonia decemnotata</i> (Say)
<i>Malus</i> sp. (Rosaceae)	<i>Phyllotreta zimmermanni</i> (Crotch)
<i>Malva moschata</i> L. (Malvaceae)	<i>Calligrapha sigmoidea</i> (LeConte)
<i>Malva parviflora</i> L. (Malvaceae)	<i>Calligrapha dislocata</i> (Rogers), <i>Zygo-</i> <i>gramma piceicollis</i> (Stål), <i>Z. signatipennis</i> (Stål)
<i>Malva rotundifolia</i> L. (Malvaceae)	<i>Diabrotica undecimpunctata</i> Mannerheim, <i>Myochrous longulus</i> LeConte, <i>Systema blanda</i> Melsheimer
<i>Malva</i> sp. (Malvaceae)	<i>Chaetocnema ectypa</i> Horn, <i>Coleothorpa</i> <i>axillaris</i> (LeConte), <i>Cryptocephalus leucomelas</i> Suffrian, <i>Glyptoscelis squamulata</i> Crotch, <i>Stenopodius</i> <i>flavidus</i> Horn
<i>Malvastrum americanum</i> (L.) J. Torr. (Malvaceae)	<i>Brachycoryna pumila</i> Guérin-Méneville, <i>Chaetocnema quadricollis</i> Schwarz
<i>Malvastrum aurantiacum</i> (Scheele) Walp. (Malvaceae)	<i>Anisostena nigrata</i> (Olivier), <i>Brachycoryna</i> <i>pumila</i> Guérin-Méneville
<i>Malvastrum coromandelianum</i> (L.) Garcke (Malvaceae)	<i>Brachycoryna pumila</i> Guérin-Méneville, <i>Chaetocnema quadricollis</i> Schwarz, <i>Colaspis brunnea</i> (Fabricius), <i>Epitrix cucumeris</i> (Harris)
<i>Malvastrum spicatum</i> (L.) A. Gray (Malvaceae)	<i>Brachycoryna pumila</i> Guérin-Méneville
<i>Malvastrum wrightii</i> Gray (Malvaceae)	<i>Brachycoryna pumila</i> Guérin-Méneville
<i>Malvastrum</i> sp. (Malvaceae)	<i>Calligrapha dislocata</i> (Rogers), <i>Stenopo-</i> <i>dus flavidus</i> Horn, <i>S. submaculatus</i> Blaisdell
<i>Malvaviscus drummondii</i> T. & G. (Malvaceae)	<i>Chlamisus maculipes</i> (Chevrolat)
<i>Mandragora officinarum</i> L. (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
Mangel	(see <i>Beta vulgaris</i> L.)
Mangel-wurzel	(see <i>Beta vulgaris</i> L.)
<i>Mangifera indica</i> L. (Anacardiaceae)	<i>Cryptocephalus nigrocinctus</i> Suffrian, <i>Diabrotica balteata</i> LeConte, <i>Omophoita cyanipennis</i> (Fabricius), <i>Rhabdopterus bowditchi</i> Barber
Mango	(see <i>Mangifera indica</i> L.)

- Mangold-wurzel (see *Beta vulgaris* L.)
- Mangrove (see *Conocarpus*, *Rhizophora*, etc.)
- Manihot esculenta* Crantz (Euphorbiaceae) *Cryptocephalus marginicollis* Suffrian, *C. nigrocinctus* Suffrian
- Manihot* sp. (Euphorbiaceae) *Cerotoma atrofasciata* Jacoby, *Diabrotica balteata* LeConte, *Physonota alutacea* Boheman
- Manzanita (see *Arctostaphylos*)
- Maple (see *Acer*)
- Maple-leaf arrowwood (see *Viburnum acerifolium* L.)
- Marah* sp. (Cucurbitaceae) *Acalymma peregrinum* (Jacoby), *A. trivittatum* (Melsheimer), *Diabrotica undecimpunctata* Mannerheim
- Marblehead squash (see *Cucurbita maxima* Duchn. ex Lam.)
- Marguerite (see *Leucanthemum vulgare* Lam.)
- Marigold (see *Tagetes*)
- Marion bluegrass (see *Poa pratensis* L.)
- Marjoram (see *Origanum*)
- Marrow (see *Cucurbita*)
- Marrow squash (see *Cucurbita*)
- Marsh cress (see *Rorippa*)
- Marsh-elder (see *Iva*)
- Marsh grass (see *Spartina*)
- Marsh mallow (see *Althaea officinalis* L.)
- Marsh marigold (see *Caltha palustris* L.)
- Marsh willow (see *Salix nigra* Marsh.)
- Marsh yellow cress (see *Rorippa islandica* (Oeder ex Murray) Borbás)
- Matricaria chamomilla* L. (Asteraceae) *Phaedon cyanescens* Stål
- Matricaria* sp. (Asteraceae) *Diabrotica balteata* LeConte, *Longitarsus succineus* (Foudras)
- Matrimony vine (see *Lycium*)
- Matthiola incana* (L.) R. Br. (Brassicaceae) *Phyllotreta pusilla* Horn, *P. ramosa* (Crotch), *P. striolata* (Fabricius), *Psylliodes chrysocephalus* (Linnaeus)
- May-apple (see *Podophyllum peltatum* L.)
- Maypop (see *Passiflora incarnata* L.)
- Meadow-daisy (see *Bellis perennis* L., *Leucanthemum vulgare* Lam.)
- Meadow foxtail (see *Alopecurus pratensis* L.)
- Meadowrue (see *Thalictrum*)
- Meadowsweet (see *Spiraea*)
- Medicago arabica* (L.) Huds. (Fabaceae) *Diabrotica undecimpunctata* Mannerheim, *D. virgifera* LeConte
- Medicago hispida* Gaertn. (Fabaceae) (see *Medicago polymorpha* L.)
- Medicago lupulina* L. (Fabaceae) *Systema blanda* Melsheimer
- Medicago orbicularis* (L.) All. (Fabaceae) *Psylliodes convexior* LeConte
- Medicago polymorpha* L. (Fabaceae) *Cerotoma trifurcata* (Forster), *Diabrotica undecimpunctata* Mannerheim
- Medicago sativa* L. (Fabaceae) *Acalymma trivittatum* (Mannerheim), *A. vittatum* (Fabricius), *Agroiconota bivittata* (Say), *Altica prasina* LeConte, *Anomoea laticlavata* (Forster), *Cassida azurea* Fabricius, *C. rubiginosa* Müller, *Cerotoma ruficornis* (Olivier), *C. trifurcata* (Forster), *Chaetocnema confinis* Crotch, *C. denticulata* (Illiger), *C. ectypa* Horn, *C. irregularis* LeConte, *C. pulicaria* Melsheimer, *C. subconvexa* White, *C. subviridis* LeConte, *Charidotella sexpunctata* (Fabricius), *Colaspis brunea* (Fabricius), *C. hesperia* Blake, *C. louisianae* Blake, *C. planicostata* Blake, *C. viridiceps* Schaeffer, *Cryptocephalus castaneus* LeConte, *C. notatus* Fabricius, *Deloyala guttata* (Olivier), *Diabrotica balteata* LeConte, *D. longicornis* (Say), *D. undecimpunctata* Mannerheim, *D. virgifera* LeConte, *Diachus auratus* (Fabricius), *Dibolia borealis* Chevrolat, *Disonycha collata* (Fabricius), *D. fumata* (LeConte), *D. punctigera* (LeConte), *D. triangularis* (Say), *Distigmoptera apicalis* Blake, *Epitrix cucumeris* (Harris), *E. fuscula* Crotch, *E. tuberosa* Gentner, *Fidia viticida* Walsh, *Galeruca browni* Blake, *Gastrophysa polygoni* (Linnaeus), *Glyphuroplata nigella* (Weise), *Glyptoscelis squamulata* Crotch, *Gratiana pallidula* (Boheman), *Lema daturaphila* Kogan & Goeden, *Longitarsus melanurus* (Melsheimer), *L. testaceus* (Melsheimer), *Monoxia pallida* Blake, *Myochrous*

Leaf Beetles Listed by Plants

- denticollis* (Say), *M. longulus* LeConte, *Neochlamisus velutinus* Karren, *Odontota dorsalis* (Thunberg), *Omo-phoita cyanipennis* (Fabricius), *Ophraella notulata* (Fabricius), *Oulema melanopus* (Linnaeus), *Pachybrachis abdominalis* (Say), *P. hepaticus* (Melsheimer), *P. peccans* Suffrian, *P. vestigialis* Fall, *Paria arizonensis* Wilcox, *P. thoracica* (Melsheimer), *Phaedon cyanescens* Stål, *Phyllotreta albionica* (LeConte), *P. armora-ciae* (Koch), *P. conjuncta* Gentner, *P. denticornis* Horn, *P. emarginata* Smith, *P. lewisii* (Crotch), *P. prasina* Chittenden, *P. pusilla* Horn, *P. striolata* (Fabricius), *P. utana* Chittenden, *P. zimmermanni* (Crotch), *Psylliodes punctulatus* Melsheimer, *Strabala rufa* (Illiger), *Systema bitaeniata* (LeConte), *S. blanda* Melsheimer, *S. elongata* (Fabricius), *S. frontalis* (Fabricius), *S. mitis* (LeConte), *Tricholochmaea punctipennis* (Mannerheim), *Zygogramma disrupta* (Rogers), *Z. exclamationis* (Fabricius), *Z. piceicollis* (Stål), *Z. signatipennis* (Stål)
- Medicago* sp. (Fabaceae) *Microtheca picea* (Guérin-Méneville)
- Meibomia* sp. (Fabaceae) (see *Desmodium*)
- Melaleuca leucadendra* (L.) L. (Myrtaceae) *Colaspis favosa* Say
- Melaleuca quinquenervia* (Cav.) S. T. Blake (Myrtaceae) *Colaspis favosa* Say
- Melampodium divaricatum* (Rich. ex Pers.) DC. (Asteraceae) *Chlamisus quadrilobatus* (Schaeffer)
- Melampyrum americanum* Michx. (Scrophulariaceae) *Dibolia melampyri* Parry
- Melampyrum lineare* Desr. (Scrophulariaceae) *Dibolia melampyri* Parry
- Melampyrum* sp. (Scrophulariaceae) *Sermylassa halensis* (Linnaeus)
- Melanthium virginicum* L. (Liliaceae) *Diabrotica cristata* (Harris)
- Melia azedarach* L. (Meliaceae) *Cryptocephalus guttulatellus* Schaeffer
- Melicoccus bijugatus* Jacq. (Sapindaceae) *Neolema dorsalis* (Olivier)
- Melilotus alba* Medik. (Fabaceae) *Chaetocnema pulicaria* Melsheimer,
Chrysomela interrupta Fabricius, *Diabrotica cristata* (Harris), *Phyllotreta liebecki* Schaeffer, *Trirhabda bacharidis* (Weber), *T. canadensis* (Kirby), *Zygogramma exclamationis* (Fabricius)
- Melilotus indica* (L.) All. (Fabaceae) *Chaetocnema ectypa* Horn, *Lema trivittata* Say, *Myochrous longulus* LeConte
- Melilotus officinalis* (L.) Pall. (Fabaceae) *Pseudoluperus longulus* (LeConte), *Systema blanda* Melsheimer
- Melilotus* sp. (Fabaceae) *Altica blanchardi* Fall, *A. prasina* LeConte, *Brachypnoea puncticollis* (Say), *Cerotoma trifurcata* (Forster), *Colaspis brunnea* (Fabricius), *Cryptocephalus notatus* Fabricius, *Diabrotica balteata* LeConte, *D. longicornis* (Say), *D. undecimpunctata* Mannerheim, *D. virgifera* LeConte, *Entomoscelis americana* Brown, *Epitrix cucumeris* (Harris), *Gastrophysa cyanea* Melsheimer, *Lexiphanes saponatus* (Fabricius), *Phyllotreta striolata* (Fabricius), *Rhabdopterus deceptor* Barber
- Melissa* sp. (Lamiaceae) *Chrysolina fastuosa* (Scopoli), *C. staphylaea* (Linnaeus)
- Melon (see *Citrullus lanatus* (Thunb.) Matsum. & Nakai, *Cucumis melo* L.)
- Melothria pendula* L. (Curcubitaceae) *Acalymma peregrinum* (Jacoby)
- Menispermum canadense* L. (Menispermaceae) *Diabrotica virgifera* LeConte
- Mentha aquatica* L. (Lamiaceae) *Chrysolina staphylaea* (Linnaeus), *Longitarsus ferrugineus* (Foudras)
- Mentha arvensis* L. (Lamiaceae) *Longitarsus ferrugineus* (Foudras), *L. rubiginosus* (Foudras), *Phyllobrotica viridipennis* (LeConte)
- Mentha canadensis* L. (Lamiaceae) *Systema blanda* Melsheimer
- Mentha candicans* Mill. (Lamiaceae) (see *Mentha sylvestris* L.)
- Mentha crispa* L. (Lamiaceae) (see *Mentha spicata* L.)
- Mentha gentilis* L. (Lamiaceae) *Longitarsus ferrugineus* (Foudras)
- Mentha longifolia* (L.) L. (Lamiaceae) *Chrysolina staphylaea* (Linnaeus), *Longitarsus ferrugineus* (Foudras)
- Mentha nemorosa* Willd. (Lamiaceae) *Longitarsus ferrugineus* (Foudras)
- Mentha parietariaefolia* J. Beck (Lamiaceae) (see *Mentha arvensis* L.)
- Mentha x piperita* L. (Lamiaceae) *Diabrotica balteata* LeConte, *Longitarsus ferrugineus* (Foudras), *Pachybrachis bivittatus* (Say)
- Mentha x rotundifolia* (L.) Huds. (Lamiaceae) *Chrysolina staphylaea* (Linnaeus), *Longitarsus ferrugineus* (Foudras), *L. pellucidus* (Foudras)
- Mentha spicata* L. (Lamiaceae) *Chrysolina staphylaea* (Linnaeus), *Longitarsus ferrugineus* (Foudras), *Octotoma scabripennis* Guérin-Méneville, *Systema hudsonias* (Forster)
- Mentha sylvestris* L. (Lamiaceae) *Chrysolina staphylaea* (Linnaeus), *Longitarsus ferrugineus* (Foudras)
- Mentha viridis* (L.) L. (Lamiaceae) (see *Mentha spicata* L.)

<i>Mentha</i> sp. (Lamiaceae)	<i>Cassida nebulosa</i> Linnaeus, <i>Chaetocnema denticulata</i> (Illiger), <i>C. opulenta</i> Horn, <i>Disonycha pensylvanica</i> (Illiger), <i>Galerucella nymphaeae</i> (Linnaeus), <i>Glyptina atriventris</i> Horn, <i>Kuschelina gibbitarsa</i> (Say), <i>Longitarsus luridus</i> (Scopoli), <i>Neogalerucella pusilla</i> (Duftschmid), <i>Octotoma championi</i> Baly, <i>Phyllobrotica leechi</i> Blake, <i>Plateumaris pusilla</i> (Say), <i>Systema frontalis</i> (Fabricius), <i>Zygogramma suturalis</i> (Fabricius)
<i>Mentzelia hirsutissima</i> S. Wats. (Loasaceae)	<i>Androlyperus incisus</i> Schaeffer
<i>Mentzelia involucrata</i> S. Wats. (Loasaceae)	<i>Androlyperus incisus</i> Schaeffer
<i>Mentzelia pectinata</i> Kell. (Loasaceae)	<i>Androlyperus californicus</i> (Schaeffer)
<i>Merremia aegyptia</i> (L.) Urb. (Convolvulaceae)	<i>Charidotella sexpunctata</i> (Fabricius), <i>Deloyala guttata</i> (Olivier)
<i>Merremia dissecta</i> (Jacq.) Hallier f. (Convolvulaceae)	<i>Microctenochira bonvouloiri</i> (Boheman)
<i>Merremia quinquefolia</i> (L.) Hallier f. (Convolvulaceae)	<i>Charidotella sexpunctata</i> (Fabricius)
<i>Merremia umbellata</i> (L.) Hallier f. (Convolvulaceae)	<i>Chelymorpha cribraria</i> (Fabricius)
Mesquite	(see <i>Prosopis</i>)
<i>Metopium</i> sp. (Anacardiaceae)	<i>Oomorphus floridanus</i> Horn
Mexican drop seed	(see <i>Muhlenbergia mexicana</i> (L.) Trin.)
Mignonette	(see <i>Reseda</i>)
Milfoil	(see <i>Achillea millefolium</i> L.)
Milk thistle	(see <i>Silybum marianum</i> (L.) Gaertn.)
Milkweed	(see <i>Asclepias</i>)
Millet	(see <i>Panicum</i> , <i>Setaria</i>)
Milo	(see <i>Sorghum bicolor</i> (L.) Moench)
Mimosa	(see <i>Albizia</i> , <i>Mimosa</i>)
<i>Mimosa biuncifera</i> Benth. (Fabaceae)	<i>Megalostomis subfasciata</i> (LeConte), <i>Pachybrachis snowi</i> Bowditch, <i>Urodera crucifera</i> Lacordaire, <i>U. dilaticollis</i> Jacoby
<i>Mimosa laxiflora</i> Benth. (Fabaceae)	<i>Glyphuroplata uniformis</i> (Smith)
<i>Mimosa pigra</i> L. (Fabaceae)	<i>Nesaecrepiata infuscata</i> (Schaeffer)
<i>Mimosa purpurascens</i> Robinson (Fabaceae)	<i>Dysphenges rileyi</i> Gilbert & Andrews
<i>Mimosa strigillosa</i> J. Torr. & A. Gray (Fabaceae)	<i>Diabrotica virgifera</i> LeConte, <i>Nesaecrepiata infuscata</i> (Schaeffer)
<i>Mimosa</i> sp. (Fabaceae)	<i>Altica torquata</i> LeConte, <i>Anomoea flavokansiensis</i> Moldenke, <i>A. rufifrons</i> (Lacordaire), <i>Colaspis cruriflava</i> Blake, <i>Coleozena longicollis</i> (Jacoby), <i>Cryptocephalus basalis</i> Suffrian, <i>C. duryi</i> Schaeffer, <i>C. pseudomaccus</i> White, <i>C. triundulatus</i> White, <i>Diabrotica balteata</i> LeConte, <i>Glyphuroplata nigella</i> (Weise), <i>Megalostomis dimidiata</i> (Lacordaire), <i>Pachybrachis fortis</i> Fall, <i>P. nunenmacheri</i> Fall, <i>P. wenzeli</i> Fall, <i>Paria arizonensis</i> Wilcox, <i>Plagioderma versicolora</i> (Laicharting), <i>Pseudochlamys semirufescens</i> Karren, <i>Saxinis subpubescens</i> Schaeffer
<i>Mimosopsis aculeaticarpa</i> (Ortega) Britton & Rose (Fabaceae)	<i>Chlamisus quadrilobatus</i> (Schaeffer)
<i>Mimulus alatus</i> Ait. (Scrophulariaceae)	<i>Capraita circumdata</i> (Randall)
<i>Mimulus ringens</i> L. (Scrophulariaceae)	<i>Capraita subvittata</i> (Horn)
Mint	(see <i>Mentha</i> , <i>Teucrium</i> , etc.)
<i>Minuartia</i> sp. (Caryophyllaceae)	<i>Chrysolina subsulcata</i> (Mannerheim)
<i>Mirabilis jalapa</i> L. (Nyctaginaceae)	<i>Colaspis brunnea</i> (Fabricius), <i>C. floridana</i> Schaeffer, <i>Phaedon cyanesens</i> Stål, <i>Zygogramma piceicollis</i> (Stål)
<i>Mirabilis</i> sp. (Nyctaginaceae)	<i>Diabrotica undecimpunctata</i> Mannerheim
Mission grape	(see <i>Vitis vinifera</i> L.)
<i>Modiolastrum lateritium</i> (Hook.) Krapov (Malvaceae)	<i>Myochrous longulus</i> LeConte
<i>Moluccella spinosa</i> L. (Lamiaceae)	<i>Longitarsus luridus</i> (Scopoli)
<i>Momordica charantia</i> L. (Cucurbitaceae)	<i>Diabrotica balteata</i> LeConte, <i>D. undecimpunctata</i> Mannerheim, <i>Phyllotreta striolata</i> (Fabricius)
<i>Momordica</i> sp. (Cucurbitaceae)	<i>Acalymma vittatum</i> (Fabricius)
<i>Monarda citridora</i> Cerv. ex Lag. (Lamiaceae)	<i>Brachycoryna pumila</i> Guérin-Méneville, <i>Systema gracilentia</i> Blake
<i>Monarda didyma</i> L. (Lamiaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Glyptina spuria</i> LeConte
<i>Monarda fistulosa</i> L. (Lamiaceae)	<i>Brachypnoea margaretae</i> (Schultz), <i>Diabrotica undecimpunctata</i> Mannerheim, <i>Physonota unipunctata</i> (Say)
<i>Monarda menthifolia</i> Graham (Lamiaceae)	<i>Octotoma marginicollis</i> Horn
<i>Monarda punctata</i> L. (Lamiaceae)	<i>Chrysolina auripennis</i> (Say), <i>Glyptina spuria</i> LeConte

Leaf Beetles Listed by Plants

<i>Monarda</i> sp. (Lamiaceae)	<i>Diabrotica cristata</i> (Harris)
<i>Monolepis</i> sp. (Chenopodiaceae)	<i>Systema blanda</i> Melsheimer, <i>Zygogramma conjuncta</i> (Rogers)
<i>Montanoa leucantha</i> (Lag.) S. F. Blake (Asteraceae)	<i>Leptinotarsa behrensi</i> Harold
Moonflower	(see <i>Ipomoea alba</i> L.)
Moraine locust	(see <i>Gleditsia triacanthos</i> L.)
Morning-glory	(see <i>Calystegia</i> , <i>Convolvulus</i> , <i>Ipomoea</i>)
<i>Morus alba</i> L. (Moraceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Morus microphylla</i> Buckl. (Moraceae)	<i>Diabrotica virgifera</i> LeConte
<i>Morus</i> sp. (Moraceae)	<i>Acalymma trivittatum</i> (Melsheimer), <i>Diabrotica balteata</i> LeConte, <i>D. undecimpunctata</i> Mannerheim, <i>Odontota dorsalis</i> (Thunberg), <i>Phyllotreta striolata</i> (Fabricius)
Moth bean	(see <i>Vigna aconitifolia</i> (Jacq.) Marechal)
Mountain ash	(see <i>Sorbus</i>)
Mountain-balm	(see <i>Eriodictyon</i>)
Mountain hemlock	(see <i>Tsuga mertensiana</i> (Bong.) Carr.)
Mountain juniper	(see <i>Juniperus scopulorum</i> Sarg.)
Mountain laurel	(see <i>Kalmia latifolia</i> L.)
Mouse barley	(see <i>Hordeum murinum</i> L.)
<i>Mucuna aterrima</i> (Piper & Tracy) Holland (Fabaceae)	<i>Octotoma scabripennis</i> Guérin-Méneville
<i>Mucuna</i> sp. (Fabaceae)	<i>Altica chalybea</i> Illiger, <i>Cerotoma trifurcata</i> (Forster), <i>Chaetocnema confinis</i> Crotch, <i>Colaspis costipennis</i> Crotch, <i>Longitarsus cotulus</i> Blatchley
<i>Muehlenbeckia</i> sp. (Polygonaceae)	<i>Gastrophysa cyanea</i> Melsheimer
<i>Muhlenbergia emersleyi</i> Vasey (Poaceae)	<i>Lygistus streptophallus</i> Wilcox
<i>Muhlenbergia mexicana</i> (L.) Trin. (Poaceae)	<i>Colaspis brunnea</i> (Fabricius)
<i>Muhlenbergia</i> sp. (Poaceae)	<i>Chaetocnema subviridis</i> LeConte
Mulberry	(see <i>Morus</i>)
Mullein	(see <i>Verbascum</i>)
Multiflora rose	(see <i>Rosa multiflora</i> Thunb. ex Murr.)
Mum	(see <i>Chrysanthemum</i> and similar genera)
<i>Musa x paradisiaca</i> L. (Musaceae)	<i>Acalymma vittatum</i> (Fabricius), <i>Diabrotica balteata</i> LeConte, <i>D. tibialis</i> Jacoby
<i>Musa</i> sp. (Musaceae)	<i>Cerotoma atrofasciata</i> Jacoby, <i>Disonycha antennata</i> Jacoby, <i>Metachroma longicollis</i> Jacoby, <i>Myochrous cyphus</i> Blake, <i>Phyllotreta striolata</i> (Fabricius), <i>Strabala rotunda</i> Blake
Muscadine grape	(see <i>Vitis rotundifolia</i> Michx., <i>V. vulpina</i> L.)
<i>Muscari</i> sp. (Liliaceae)	<i>Lilioceris lili</i> (Scopoli)
Muskmelon	(see <i>Cucumis melo</i> L.)
Musk thistle	(see <i>Carduus nutans</i> L.)
Mustard	(see <i>Brassica</i> and similar genera)
<i>Myosotis macrosperma</i> Engelm. (Boraginaceae)	<i>Longitarsus melamurus</i> (Melsheimer)
<i>Myosotis secunda</i> A. Murray (Boraginaceae)	<i>Phaedon armoraciae</i> (Linnaeus)
<i>Myosotis sylvatica</i> Ehrh. ex Hoff. (Boraginaceae)	<i>Longitarsus quadriguttatus</i> (Pontoppidan)
<i>Myosotis</i> sp. (Boraginaceae)	<i>Epitrix cucumeris</i> (Harris)
<i>Myosoton</i> sp. (Caryophyllaceae)	<i>Cassida flaveola</i> Thunberg
<i>Myrciaria</i> sp. (Myrtaceae)	<i>Rhabdopterus bowditchi</i> Barber
<i>Myrica asplenifolia</i> L. (Myricaceae)	(see <i>Comptonia peregrina</i> (L.) Coult.)
<i>Myrica carolinensis</i> Mill. (Myricaceae)	(see <i>Myrica cerifera</i> L.)
<i>Myrica cerifera</i> L. (Myricaceae)	<i>Colaspis favosa</i> Say, <i>C. pseudofavosa</i> Riley, <i>Cryptocephalus incertus</i> Olivier, <i>C. nanus</i> Fabricius, <i>C. ochraceus</i> Fall, <i>Exema gibber</i> (Fabricius), <i>Galerucella nymphaeae</i> (Linnaeus), <i>Lexiphanes saponatus</i> (Fabricius), <i>Neochlamisus insularis</i> (Schaeffer), <i>Pachybrachis caelatus</i> LeConte, <i>Rhabdopterus picipes</i> (Olivier), <i>Triachus atomus</i> (Suffrian), <i>Trirhabda bacharidis</i> (Weber)
<i>Myrica gale</i> L. (Myricaceae)	<i>Galerucella nymphaeae</i> (Linnaeus), <i>Systema frontalis</i> (Fabricius), <i>Tricholochmaea decora</i> (Say)
<i>Myrica pensylvanica</i> Mirb. (Myricaceae)	<i>Galerucella nymphaeae</i> (Linnaeus), <i>Neogalerucella californiensis</i> (Linnaeus)
<i>Myrica</i> sp. (Myricaceae)	<i>Altica chalybea</i> Illiger, <i>Baliosus nervosus</i>

(Panzer), <i>Calligrapha scalaris</i> (LeConte), <i>Colaspis brunnea</i> (Fabricius), <i>C. flavocostata</i> Schaeffer, <i>C. recurva</i> Blake, <i>Diachus squalens</i> (Suffrian), <i>Lexiphanes affinis</i> (Haldeman), <i>Metachroma pellucidum</i> Crotch, <i>Neochlamisus comptoniae</i> (Brown), <i>Pachybrachis peccans</i> Suffrian, <i>Systema marginalis</i> (Illiger), <i>Triachus cerinus</i> LeConte, <i>T. vacuus</i> LeConte, <i>Xanthonia villosula</i> (Melsheimer)	
<i>Myriophyllum aquaticum</i> (Vell.) Verdc. (Haloragaceae)	<i>Lysathia ludoviciana</i> (Fall)
<i>Myriophyllum brasiliense</i> Camb. (Haloragaceae)	<i>Lysathia ludoviciana</i> (Fall)
<i>Myriophyllum heterophyllum</i> Michx. (Haloragaceae)	<i>Donacia cincticornis</i> Newman
<i>Myriophyllum spicatum</i> L. (Haloragaceae)	<i>Donacia hirticollis</i> Kirby
Myrtle	(see <i>Baccharis</i> , <i>Lagerstroemia</i> , <i>Myrica</i> , <i>Vinca</i> , etc.)
Narcissus	(see <i>Narcissus</i>)
<i>Narcissus</i> sp. (Amaryllidaceae)	<i>Diabrotica undecimpunctata</i> Mannerheim, <i>Liliocercis lillii</i> (Scopoli), <i>Phyllotreta zimmermanni</i> (Crotch)
Narrowleaf cottonwood	(see <i>Populus angustifolia</i> James ex Long)
Narrow-leaf plantain	(see <i>Plantago lanceolata</i> L.)
Narrow leaved cottonwood	(see <i>Populus angustifolia</i> James ex Long)
<i>Nassella viridula</i> (Trin.) Barkworth (Poaceae)	<i>Distigmoptera borealis</i> Blake
Nasturtium	(see <i>Nasturtium</i> , <i>Rorippa</i> , <i>Tropaeolum</i>)
<i>Nasturtium amphibium</i> (L.) R. Br. (Brassicaceae)	<i>Phaedon armoraciae</i> (Linnaeus)
<i>Nasturtium armoracia</i> (L.) Fries (Brassicaceae)	(see <i>Armoracia rusticana</i> (Lam.) P. G. Gaertn., B. Mey., & Scherb.)
<i>Nasturtium montanum</i> Wall. ex Hook. f. & Thompson (Brassicaceae)	(see <i>Rorippa indica</i> (L.) Hiern)
<i>Nasturtium officinale</i> R. Br. (Brassicaceae)	(see <i>Rorippa nasturtium-aquaticum</i> (L.) Hayek.)
<i>Nasturtium palustre</i> (L.) DC. (Brassicaceae)	(see <i>Rorippa palustris</i> (L.) Besser)
<i>Nasturtium</i> sp. (Brassicaceae)	<i>Colaspis viriditincta</i> Schaeffer, <i>Diabrotica undecimpunctata</i> Mannerheim, <i>Phyllotreta cruciferae</i> (Goeze), <i>P. undulata</i> (Kutschera), <i>P. zimmermanni</i> (Crotch)
Natal grass	(see <i>Rhynchelytrum repens</i> (Willd.) C. E. Hubb.)
<i>Navarretia</i> sp. (Polemoniaceae)	<i>Phyllotreta lewisii</i> (Crotch)
Navy bean	(see <i>Phaseolus vulgaris</i> L.)
Nectarine	(see <i>Prunus persica</i> (L.) Batsch)
<i>Nelumbo lutea</i> (Willd.) Pers. (Nelumbonaceae)	<i>Diabrotica undecimpunctata</i> Mannerheim, <i>Donacia cincticornis</i> Newman
<i>Nelumbo pentapetala</i> (Walter) Fernald (Nelumbonaceae)	<i>Diabrotica undecimpunctata</i> Mannerheim, <i>D. virgifera</i> LeConte, <i>Donacia hypoleuca</i> Lacordaire, <i>Epitrix cucumeris</i> (Harris)
<i>Nelumbo</i> sp. (Nelumbonaceae)	<i>Donacia piscatrix</i> Lacordaire
<i>Nepeta cataria</i> L. (Lamiaceae)	<i>Systema hudsonias</i> (Forster)
<i>Neptunia</i> sp. (Fabaceae)	<i>Diabrotica virgifera</i> LeConte, <i>Nesaecrepida infusca</i> (Schaeffer)
<i>Nerium oleander</i> L. (Apocynaceae)	<i>Chrysochus auratus</i> (Fabricius), <i>C. cobaltinus</i> LeConte
<i>Neslia paniculata</i> (L.) Desv. (Brassicaceae)	<i>Entomoscelis americana</i> Brown, <i>Phyllotreta cruciferae</i> (Goeze), <i>P. undulata</i> (Kutschera)
Nettle	(see <i>Urtica</i> and similar genera)
New Jersey tea	(see <i>Ceanothus americanus</i> L.)
Niagara grape	(see <i>Vitis labrusca</i> L.)
<i>Nicandra physalodes</i> (L.) P. Gaertn. (Solanaceae)	<i>Epitrix subcrinita</i> (LeConte), <i>E. tuberosa</i> Gentner, <i>Lema daturaphila</i> Kogan & Goeden, <i>Leptinotarsa decemlineata</i> (Say)
<i>Nicandra violacea</i> Lemoine (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Nicotiana affinis</i> Moore (Solanaceae)	(see <i>Nicotiana alata</i> Link & Otto)
<i>Nicotiana alata</i> Link & Otto (Solanaceae)	<i>Epitrix subcrinita</i> (LeConte), <i>E. tuberosa</i> Gentner, <i>Leptinotarsa decemlineata</i> (Say)
<i>Nicotiana attenuata</i> Torr. ex Wats. (Solanaceae)	<i>Epitrix hirtipennis</i> (Melsheimer), <i>E. subcrinita</i> (LeConte)
<i>Nicotiana glauca</i> Grah. (Solanaceae)	<i>Lema daturaphila</i> Kogan & Goeden
<i>Nicotiana glutinosa</i> L. (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Nicotiana grandiflora</i> Comes (Solanaceae)	(see <i>Nicotiana alata</i> Link & Otto)

Leaf Beetles Listed by Plants

<i>Nicotiana langsdorffii</i> Schrank (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Nicotiana paniculata</i> L. (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Nicotiana quadrivalvis</i> Pursh (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Nicotiana rustica</i> L. (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Nicotiana sanderae</i> Hort. ex W. Watson (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Nicotiana tabacum</i> L. (Solanaceae)	<i>Cryptocephalus nigrocinctus</i> Suffrian, <i>Deloyala guttata</i> (Olivier), <i>Diabrotica balteata</i> LeConte, <i>D. undecimpunctata</i> Mannerheim, <i>Epitrix cucumeris</i> (Harris), <i>E. fasciata</i> Blatchley, <i>E. fuscata</i> Crotch, <i>E. hirtipennis</i> (Melsheimer), <i>E. tuberosa</i> Gentner, <i>Lema daturaphila</i> Kogan & Goeden, <i>L. solani</i> Fabricius, <i>Leptinotarsa decemlineata</i> (Say), <i>Psylliodes affinis</i> (Paykull), <i>Systema blanda</i> Melsheimer, <i>S. elongata</i> (Fabricius), <i>Typophorus nigratus</i> (Fabricius)
<i>Nicotiana</i> sp. (Solanaceae)	<i>Acalymma vittatum</i> (Fabricius), <i>Chaetocnema confinis</i> Crotch, <i>C. denticulata</i> (Illiger), <i>C. protensa</i> LeConte, <i>C. pulicaria</i> Melsheimer, <i>Dibolia borealis</i> Chevrolat, <i>Epitrix similis</i> Gentner, <i>Liliocerus lilii</i> (Scopoli), <i>Phyllotreta striolata</i> (Fabricius), <i>P. zimmermanni</i> (Crotch), <i>Psylliodes punctulatus</i> Melsheimer
Nightshade	(see <i>Solanum</i>)
Ninebark	(see <i>Physocarpus</i>)
<i>Nolana humifusa</i> (Gouan) I. M. Johnst. (Nolanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Nolana prostrata</i> L. f. (Nolanaceae)	(see <i>Nolana humifusa</i> (Gouan) I. M. Johnst.)
<i>Nolina recurvata</i> (Lem.) Hemsl. (Agavaceae)	<i>Monocesta coryli</i> (Say)
<i>Nolina</i> sp. (Agavaceae)	<i>Triarius lividus</i> (LeConte), <i>T. melanolomatus</i> (Blake), <i>T. trivittatus</i> Horn
<i>Nomocharis saluenensis</i> Balfour (Liliaceae)	<i>Liliocerus lilii</i> (Scopoli)
<i>Nonea lutea</i> (Desr.) DC. (Boraginaceae)	<i>Longitarsus quadriguttatus</i> (Pontoppidan)
<i>Nonea pulla</i> (L.) DC. (Boraginaceae)	<i>Longitarsus quadriguttatus</i> (Pontoppidan)
<i>Nordosmia</i> sp. (Asteraceae)	(see <i>Petasites</i>)
<i>Norta altissima</i> (L.) Britton (Brassicaceae)	<i>Psylliodes punctulatus</i> Melsheimer
Northwest poplar	(see <i>Populus deltoides</i> Marshall, <i>P. balsamifera</i> L.)
Norton's Virginia grape	(see <i>Vitis aestivalis</i> Michx.)
Norway maple	(see <i>Acer platanoides</i> L.)
<i>Nuphar advena</i> (Ait.) Ait. (Nymphaeaceae)	(see <i>Nuphar lutea</i> (L.) Sm.)
<i>Nuphar lutea</i> (L.) Sm. (Nymphaeaceae)	<i>Donacia caerulea</i> Olivier, <i>D. cincticornis</i> Newman, <i>D. dissimilis</i> Schaeffer, <i>D. distincta</i> LeConte, <i>D. edentata</i> Schaeffer, <i>D. hirticollis</i> Kirby, <i>D. liebecki</i> Schaeffer, <i>D. megacornis</i> Blatchley, <i>D. palmata</i> Olivier, <i>D. piscatrix</i> Lacordaire, <i>D. proxima</i> Kirby, <i>D. rufescens</i> Lacordaire, <i>D. subtilis</i> Kunze, <i>D. texana</i> Crotch, <i>D. tuberculifrons</i> Schaeffer, <i>Galerucella nymphaeae</i> (Linnaeus)
<i>Nuphar ozarkana</i> (G. S. Miller & Standley) Standley (Nymphaeaceae)	(see <i>Nuphar lutea</i> (L.) Sm.)
<i>Nuphar pumila</i> (Pers.) Fernald (Nymphaeaceae)	(see <i>Nuphar lutea</i> (L.) Sm.)
<i>Nuphar polysepala</i> Engelm. (Nymphaeaceae)	<i>Donacia hirticollis</i> Kirby, <i>D. proxima</i> Kirby, <i>Galerucella nymphaeae</i> (Linnaeus)
<i>Nuphar variegatum</i> Engelm. (Nymphaeaceae)	<i>Donacia cincticornis</i> Newman, <i>D. hirticollis</i> Kirby, <i>D. piscatrix</i> Lacordaire, <i>D. proxima</i> Kirby, <i>Galerucella nymphaeae</i> (Linnaeus)
<i>Nuphar</i> sp. (Nymphaeaceae)	<i>Donacia fulgens</i> LeConte, <i>D. magnifica</i> LeConte, <i>D. parvidens</i> Schaeffer, <i>Neohaemonia flagellata</i> Askevold, <i>Plateumaris flavipes</i> (Kirby), <i>P. metallica</i> (Ahrens), <i>P. nitida</i> (Germar)
<i>Nymphaea advena</i> Ait. (Nymphaeaceae)	(see <i>Nuphar lutea</i> (L.) Sm.)
<i>Nymphaea alba</i> L. (Nymphaeaceae)	<i>Donacia caerulea</i> Olivier, <i>Galerucella nymphaeae</i> (Linnaeus)
<i>Nymphaea candida</i> C. Presl. (Nymphaeaceae)	<i>Galerucella nymphaeae</i> (Linnaeus)
<i>Nymphaea flava</i> Leitn. (Nymphaeaceae)	<i>Donacia cincticornis</i> Newman
<i>Nymphaea marliacea</i> Hort. Latour-Marliac (Nymphaeaceae)	(see <i>Nymphaea tuberosa</i> Paine)
<i>Nymphaea odorata</i> Ait. (Nymphaeaceae)	<i>Donacia cincticornis</i> Newman, <i>D. edentata</i> Schaeffer, <i>D. liebecki</i> Schaeffer, <i>D. megacornis</i> Blatchley, <i>D. militaris</i> Lacordaire, <i>D. palmata</i> Olivier, <i>D. parvidens</i> Schaeffer, <i>D. piscatrix</i> Lacordaire, <i>D. proxima</i> Kirby, <i>D. pubescens</i> LeConte, <i>D. rufescens</i> Lacordaire, <i>D. subtilis</i> Kunze, <i>Galerucella nymphaeae</i> (Linnaeus), <i>Neohaemonia nigricornis</i> (Kirby), <i>Plateumaris rufa</i> (Say)
<i>Nymphaea sagittata</i> Pers. (Nymphaeaceae)	<i>Galerucella nymphaeae</i> (Linnaeus)
<i>Nymphaea stellata</i> Willd. (Nymphaeaceae)	<i>Galerucella nymphaeae</i> (Linnaeus)

<i>Nymphaea tetragona</i> Georgi (Nymphaeaceae)	<i>Galerucella nymphaeae</i> (Linnaeus)
<i>Nymphaea tuberosa</i> Paine (Nymphaeaceae)	<i>Donacia cincticornis</i> Newman, <i>D. pubescens</i> LeConte, <i>Galerucella nymphaeae</i> (Linnaeus)
<i>Nymphaea</i> sp. (Nymphaeaceae)	<i>Donacia fulgens</i> LeConte, <i>D. hirticollis</i> Kirby, <i>D. magnifica</i> LeConte, <i>D. rugosa</i> LeConte, <i>D. texana</i> Crotch, <i>Donaciella pubicollis</i> (Suffrian), <i>Plateumaris flavipes</i> (Kirby), <i>P. metallica</i> (Ahrens), <i>P. nitida</i> (Germar)
<i>Nymphoides aquatica</i> (Walt. ex J. F. Gmel.) Kuntze (Menyanthaceae)	<i>Donacia cincticornis</i> Newman
<i>Nymphoides cordata</i> (S. Ell.) Fern. (Menyanthaceae)	<i>Donacia cincticornis</i> Newman
<i>Nyssa sylvatica</i> Marsh. (Nyssaceae)	<i>Coleothorpa dominicana</i> (Fabricius)
<i>Nyssa</i> sp. (Nyssaceae)	<i>Systema marginalis</i> (Illiger)
Oak	(see <i>Quercus</i>)
Oats	(see <i>Avena</i>)
<i>Oberna behen</i> (L.) Ikonn. (Caryophyllaceae)	<i>Cassida azurea</i> Fabricius
<i>Oberna cserei</i> (Baumg.) Schur. (Caryophyllaceae)	<i>Cassida azurea</i> Fabricius
<i>Oberna uniflora</i> (Roth) Ikonn. (Caryophyllaceae)	<i>Cassida azurea</i> Fabricius
<i>Ochroma pyramidale</i> (Cav. ex Lam.) Urb. (Bombacaceae)	<i>Cryptocephalus nigrocinctus</i> Suffrian
<i>Ocimum basilicum</i> L. (Lamiaceae)	<i>Psylliodes chalconeris</i> (Illiger)
<i>Ocimum</i> sp. (Lamiaceae)	<i>Cassida rubiginosa</i> Müller, <i>Chrysolina staphylaea</i> (Linnaeus)
<i>Oenanthe aquatica</i> (L.) Poir. (Apiaceae)	<i>Prasocuris phellandrii</i> (Linnaeus)
<i>Oenothera albicaulis</i> Pursh (Onagraceae)	<i>Altica foliaceae</i> LeConte
<i>Oenothera biennis</i> L. (Onagraceae)	<i>Altica carinata</i> Germar, <i>A. corni</i> Woods, <i>A. foliaceae</i> LeConte, <i>A. fuscoaenea</i> Melsheimer, <i>A. ignita</i> Illiger, <i>A. knabi</i> Blatchley, <i>A. litigata</i> Fall, <i>A. marevagans</i> Horn, <i>A. subplicata</i> LeConte, <i>A. ulmi</i> Woods, <i>Colaspis brunnea</i> (Fabricius), <i>Diabrotica undecimpunctata</i> Mannerheim, <i>Epitrix cucumeris</i> (Harris), <i>E. fasciata</i> Blatchley, <i>Graphops nebulosa</i> (LeConte), <i>G. pubescens</i> (Melsheimer), <i>Phyllotreta striolata</i> (Fabricius), <i>Systema blanda</i> Melsheimer, <i>S. frontalis</i> (Fabricius), <i>S. hudsonias</i> (Forster)
<i>Oenothera deltoides</i> J. Torr. & Frem. (Onagraceae)	<i>Altica torquata</i> LeConte
<i>Oenothera engelmannii</i> (Small) Munz (Onagraceae)	<i>Altica foliaceae</i> LeConte
<i>Oenothera fruticosa</i> L. (Onagraceae)	<i>Diabrotica undecimpunctata</i> Mannerheim
<i>Oenothera hookeri</i> Torr. & Gray (Onagraceae)	<i>Colaspis brunnea</i> (Fabricius), <i>C. hesperia</i> Blake
<i>Oenothera humifusa</i> Nutt. (Onagraceae)	<i>Altica marevagans</i> Horn
<i>Oenothera pallida</i> Lindl. (Onagraceae)	<i>Graphops pubescens</i> (Melsheimer), <i>G. varians</i> LeConte
<i>Oenothera parviflora</i> L. (Onagraceae)	<i>Altica foliaceae</i> LeConte, <i>Graphops pubescens</i> (Melsheimer)
<i>Oenothera rhombipetala</i> Nutt. (Onagraceae)	<i>Altica foliaceae</i> LeConte, <i>A. fuscoaenea</i> Melsheimer
<i>Oenothera speciosa</i> Nutt. (Onagraceae)	<i>Altica texana</i> Schaeffer, <i>Graphops simplex</i> LeConte
<i>Oenothera</i> sp. (Onagraceae)	<i>Altica bimarginata</i> Say, <i>A. chalybea</i> Illiger, <i>A. polita</i> Olivier, <i>Androlyperus incisus</i> Schaeffer, <i>Chaetocnema denticulata</i> (Illiger), <i>Charidotella sexpunctata</i> (Fabricius), <i>Diabrotica longicornis</i> (Say), <i>Diachus auratus</i> (Fabricius), <i>Galerucella nymphaeae</i> (Linnaeus), <i>Graphops marcassita</i> (Crotch), <i>Lema daturaphila</i> Kogan & Goeden, <i>Lexiphanes affinis</i> (Haldeman), <i>L. saponatus</i> (Fabricius), <i>L. seminulum</i> (Suffrian), <i>Lysathia ludoviciana</i> (Fall), <i>Metachroma angustulum</i> Crotch, <i>Ophraella notulata</i> (Fabricius), <i>Pachybrachis othonus</i> (Say), <i>Plagiodera versicolora</i> (Laicharting), <i>Pseudoluperus longulus</i> (LeConte)
Okra	(see <i>Abelmoschus esculentus</i> (L.) Moench)
Oleander	(see <i>Nerium oleander</i> L.)
<i>Oleander</i> sp. (Apocynaceae)	(see <i>Nerium</i>)
<i>Olneya tesota</i> A. Gray (Fabaceae)	<i>Coleorozena lecontii</i> (Crotch), <i>Coleothorpa axillaris</i> (LeConte)
<i>Omphalodes linifolia</i> (L.) Moench (Boraginaceae)	<i>Longitarsus quadriguttatus</i> (Pontoppidan)
<i>Omphalodes verna</i> Moench (Boraginaceae)	<i>Longitarsus quadriguttatus</i> (Pontoppidan)
<i>Onagra</i> sp. (Onagraceae)	(see <i>Oenothera</i>)
Onion	(see <i>Allium</i>)
<i>Onopordum acanthium</i> L. (Asteraceae)	<i>Altica carduorum</i> Guérin-Ménéville, <i>Cassida rubiginosa</i> Müller, <i>Diabrotica undecimpunctata</i> Mannerheim

Leaf Beetles Listed by Plants

<i>Onopordum illyricum</i> L. (Asteraceae)	<i>Psylliodes chalconeris</i> (Illiger), <i>Sphaeroderma testaceum</i> (Fabricius)
<i>Onopordum</i> sp. (Asteraceae)	<i>Lema puncticollis</i> (Curtis)
<i>Onosmodium carolinianum</i> DC. (Boraginaceae)	(see <i>Onosmodium molle</i> Michx.)
<i>Onosmodium helleri</i> Small (Boraginaceae)	<i>Longitarsus subrufus</i> LeConte
<i>Onosmodium hispidissimum</i> Mack. (Boraginaceae)	(see <i>Onosmodium molle</i> Michx.)
<i>Onosmodium molle</i> Michx. (Boraginaceae)	<i>Longitarsus melanurus</i> (Melsheimer), <i>L. subrufus</i> LeConte, <i>L. turbatus</i> Horn
<i>Opuntia arborescens</i> Engelm. (Cactaceae)	<i>Disonycha varicornis</i> Horn
<i>Opuntia davisii</i> Englem. (Cactaceae)	<i>Disonycha varicornis</i> Horn
<i>Opuntia echinocarpa</i> Engelm. & Bigel. (Cactaceae)	<i>Pteleon brevicornis</i> (Jacoby)
<i>Opuntia engelmannii</i> Salm-Dyck (Cactaceae)	<i>Coleothorpa dominicana</i> (Fabricius)
<i>Opuntia fulgida</i> Englem. (Cactaceae)	<i>Disonycha varicornis</i> Horn
<i>Opuntia humifusa</i> (Raf.) Raf. (Cactaceae)	<i>Longitarsus arenaceus</i> Blatchley
<i>Opuntia imbricata</i> (Haw.) DC. (Cactaceae)	<i>Disonycha varicornis</i> Horn
<i>Opuntia kleiniae</i> DC. (Cactaceae)	<i>Disonycha varicornis</i> Horn
<i>Opuntia leptocaulis</i> DC. (Cactaceae)	<i>Disonycha varicornis</i> Horn
<i>Opuntia lindheimeri</i> Englem. (Cactaceae)	<i>Disonycha varicornis</i> Horn
<i>Opuntia rafinesquii</i> Englem. (Cactaceae)	<i>Prasocuris phellandrii</i> (Linnaeus)
<i>Opuntia versicolor</i> Englem. ex J. M. Coult. (Cactaceae)	<i>Disonycha varicornis</i> Horn
<i>Opuntia</i> sp. (Cactaceae)	<i>Brachypnoea tristis</i> (Olivier), <i>Chrysolina auripennis</i> (Say), <i>Derospidea brevicollis</i> (LeConte), <i>Exema gibber</i> (Fabricius), <i>Leptinotarsa haldemani</i> (Rogers), <i>Longitarsus alternatus</i> (Ziegler), <i>Metrioidea blakeae</i> (Wilcox), <i>Pseudoluperus longulus</i> (LeConte)
Orange	(see <i>Citrus</i>)
Orange hawkweed	(see <i>Hieracium aurantiacum</i> L.)
<i>Orbexilum pedunculatum</i> (P. Mill.) Rydb. (Fabaceae)	<i>Saxinis omogera</i> Lacordaire
Orchard grass	(see <i>Dactylis glomerata</i> L.)
Orchardgrass	(see <i>Dactylis glomerata</i> L.)
Oriental mustard	(see <i>Brassica juncea</i> (L.) Czern., <i>Sisymbrium orientale</i> L.)
<i>Origanum syriacum</i> L. (Lamiaceae)	<i>Longitarsus luridus</i> (Scopoli)
<i>Origanum vulgare</i> L. (Lamiaceae)	<i>Octotoma scabripennis</i> Guérin-Ménéville
<i>Origanum</i> sp. (Lamiaceae)	<i>Octotoma championi</i> Baly
<i>Orobanche</i> sp. (Orobanchaceae)	<i>Diabrotica undecimpunctata</i> Mannerheim
<i>Orontium aquaticum</i> L. (Araceae)	<i>Donacia liebecki</i> Schaeffer
<i>Oryza sativa</i> L. (Poaceae)	<i>Anomoea rufifrons</i> (Lacordaire), <i>Cerotoma atrofasciata</i> Jacoby, <i>C. ruficornis</i> (Olivier), <i>C. trifurcata</i> (Forster), <i>Chaetocnema denticulata</i> (Illiger), <i>C. ectypa</i> Horn, <i>C. obesula</i> LeConte, <i>C. subconvexa</i> White, <i>Colaspis brunnea</i> (Fabricius), <i>C. championi</i> Jacoby, <i>C. louisianae</i> Blake, <i>Deloyala guttata</i> (Olivier), <i>Diabrotica balteata</i> LeConte, <i>D. longicornis</i> (Say), <i>D. tibialis</i> Jacoby, <i>D. undecimpunctata</i> Mannerheim, <i>D. virgifera</i> LeConte, <i>Disonycha glabrata</i> (Fabricius), <i>Leptinotarsa tlascalana</i> Stål, <i>Myochrous cyphus</i> Blake, <i>Neolochmaea oblitterata</i> (Olivier), <i>Omophoita cyanipennis</i> (Fabricius), <i>Oulema cornuta</i> (Fabricius), <i>O. melanopus</i> (Linnaeus), <i>Paria aterrima</i> (Olivier), <i>Systema frontalis</i> (Fabricius), <i>S. pallicornis</i> Schaeffer, <i>Typophorus nigratus</i> (Fabricius)
<i>Oryza</i> sp. (Poaceae)	<i>Chalepus bellulus</i> (Chapuis), <i>Charidotella sexpunctata</i> (Fabricius), <i>Epitrix cucumeris</i> (Harris), <i>Neolema dorsalis</i> (Olivier), <i>Physonota alutacea</i> Boheman, <i>Strabala acuminata</i> Blake
<i>Osmunda regalis</i> L. (Osmundaceae)	<i>Systema frontalis</i> (Fabricius)
<i>Osteomeles anthyllidifolia</i> (Sm.) Lindl. (Rosaceae)	<i>Diachus auratus</i> (Fabricius)
<i>Ostrya virginiana</i> (Mill.) K. Koch (Betulaceae)	<i>Baliosus nervosus</i> (Panzer), <i>Calligrapha ostryae</i> Brown, <i>Syneta ferruginea</i> (Germar), <i>Tymnes tricolor</i> (Fabricius), <i>Xanthonia villosula</i> (Melsheimer)
<i>Ostrya</i> sp. (Betulaceae)	<i>Calligrapha scalaris</i> (LeConte), <i>Odontota notata</i> (Olivier)
Oswego tea	(see <i>Monarda didyma</i> L.)
<i>Oxalis corniculata</i> L. (Oxalidaceae)	<i>Diabrotica undecimpunctata</i> Mannerheim
<i>Oxalis</i> sp. (Oxalidaceae)	<i>Diabrotica virgifera</i> LeConte, <i>Epitrix cucumeris</i> (Harris)
<i>Oxydendrum arboreum</i> (L.) DC. (Ericaceae)	<i>Epitrix fasciata</i> Blatchley

<i>Oxypolis rigidior</i> (L.) Raf. (Apiaceae)	<i>Diabrotica cristata</i> (Harris), <i>D. undecimpunctata</i> Mannerheim
<i>Oxytropis lambertii</i> Pursh (Fabaceae)	<i>Coleothorpa vittigera</i> (LeConte)
<i>Oxytropis wrangelii</i> Jurtzer (Fabaceae)	<i>Chrysolina subsulcata</i> (Mannerheim)
<i>Oxytropis</i> sp. (Fabaceae)	<i>Physonota unipunctata</i> (Say), <i>Systema bitaeniata</i> (LeConte)
Ozier willow	(see <i>Salix viminalis</i> L.)
<i>Paeonia</i> sp. (Paeoniaceae)	<i>Brachypnoea puncticollis</i> (Say), <i>Diabrotica undecimpunctata</i> Mannerheim
Palmetto	(see <i>Sabal</i> , <i>Serenoa</i> , etc.)
Pangola	(see <i>Digitaria eriantha</i> Steud.)
Panicled dogwood	(see <i>Cornus racemosa</i> Lam.)
<i>Panicum barbinode</i> Trin. (Poaceae)	(see <i>Brachiaria mutica</i> (Forssk.) Stapf)
<i>Panicum capillare</i> L. (Poaceae)	<i>Chaetocnema denticulata</i> (Illiger), <i>C. pulicaria</i> Melsheimer, <i>Erynephala puncticollis</i> (Say), <i>Glyphuroplata pluto</i> (Newman)
<i>Panicum dichotomiflorum</i> Michx. (Poaceae)	<i>Chaetocnema denticulata</i> (Illiger), <i>C. pulicaria</i> Melsheimer, <i>Colaspis brunnea</i> (Fabricius), <i>Diabrotica undecimpunctata</i> Mannerheim
<i>Panicum hallii</i> Vasey (Poaceae)	<i>Diabrotica virgifera</i> LeConte
<i>Panicum leucophaeum</i> Kunth (Poaceae)	<i>Chalepus sanguinicollis</i> (Linnaeus)
<i>Panicum macrocarpon</i> J. LeConte ex Torr. (Poaceae)	(see <i>Dichanthelium latifolium</i> (L.) Gould & C. A. Clark)
<i>Panicum maximum</i> Jacq. (Poaceae)	<i>Anisostena gracilis</i> (Horn), <i>Cerotoma ruficornis</i> (Olivier), <i>Diabrotica balteata</i> LeConte, <i>Typophorus nigratus</i> (Fabricius)
<i>Panicum miliaceum</i> L. (Poaceae)	<i>Chaetocnema denticulata</i> (Illiger), <i>C. pulicaria</i> Melsheimer, <i>Diabrotica balteata</i> LeConte, <i>D. longicornis</i> (Say), <i>D. undecimpunctata</i> Mannerheim, <i>D. virgifera</i> LeConte
<i>Panicum molle</i> Sw. (Poaceae)	(see <i>Urochloa mollis</i> (Sw.) Morrone & Zuloaga)
<i>Panicum oligosanthos</i> Schultes (Poaceae)	(see <i>Dichanthelium scribnerianum</i> Nash)
<i>Panicum pubescens</i> Lam. (Poaceae)	(see <i>Dichanthelium scoparium</i> (Lam.) Gould)
<i>Panicum purpurascens</i> Raddi (Poaceae)	(see <i>Brachiaria mutica</i> (Forssk.) Stapf)
<i>Panicum virgatum</i> L. (Poaceae)	<i>Anisostena ariadne</i> (Newman), <i>Diabrotica cristata</i> (Harris), <i>Oulema melanopus</i> (Linnaeus)
<i>Panicum</i> sp. (Poaceae)	<i>Chaetocnema concinna</i> (Marsham), <i>Paria canella</i> (Fabricius), <i>P. quadrinotata</i> (Say), <i>Phyllotreta striolata</i> (Fabricius), <i>Systema blanda</i> Melsheimer
<i>Papaver rhoeas</i> L. (Papaveraceae)	<i>Xanthogaleruca luteola</i> (Müller)
Papaya	(see <i>Carica</i>)
Paper birch	(see <i>Betula papyrifera</i> Marsh.)
Para grass	(see <i>Brachiaria mutica</i> (Forssk.) Stapf)
<i>Parkinsonia aculeata</i> L. (Fabaceae)	<i>Coleorozena pilatei</i> (Lacordaire), <i>Cryptocephalus trizonatus</i> Suffrian, <i>Diabrotica balteata</i> LeConte, <i>Eumolpus robustus</i> (Horn), <i>Pachybrachis femoratus</i> (Olivier)
<i>Parkinsonia florida</i> (Benth. ex A. Gray) S. Watson (Fabaceae)	<i>Coleorozena pilatei</i> (Lacordaire), <i>Coleothorpa mucorea</i> (LeConte), <i>Leptinotarsa collinsi</i> Wilcox
<i>Parrya nudicaulis</i> (L.) Rogel (Brassicaceae)	<i>Chrysolina cavigera</i> (Sahlberg)
<i>Parrya</i> sp. (Brassicaceae)	<i>Chrysolina subsulcata</i> (Mannerheim)
Parsley	(see <i>Petroselinum crispum</i> (Mill.) Nyman ex A. W. Hill)
Parsnip	(see <i>Pastinaca sativa</i> L.)
<i>Parthenium argentatum</i> A. Gray (Asteraceae)	<i>Altica foliaceae</i> LeConte, <i>Chaetocnema ectypa</i> Horn, <i>C. pulicaria</i> Melsheimer, <i>Diabrotica undecimpunctata</i> Mannerheim, <i>Epitrix hirtipennis</i> (Melsheimer), <i>Systema blanda</i> Melsheimer, <i>Trirhabda geminata</i> Horn, <i>T. pubicollis</i> Blake
<i>Parthenium hysterophorus</i> L. (Asteraceae)	<i>Chaetocnema pulicaria</i> Melsheimer, <i>Cryptocephalus irroratus</i> Suffrian, <i>Diabrotica balteata</i> LeConte, <i>D. undecimpunctata</i> Mannerheim, <i>Diachus auratus</i> (Fabricius), <i>Exema conspersa</i> (Mannerheim), <i>E. dispar</i> Lacordaire, <i>Lexiphanes guerini</i> (Perbosc), <i>Ophraella communis</i> LeSage, <i>O. slobodkini</i> Futuyma, <i>Pachybrachis femoratus</i> (Olivier), <i>P. immaculatus</i> Jacoby, <i>P. vestigialis</i> Fall, <i>Systema blanda</i> Melsheimer, <i>Zygogramma conjuncta</i> (Rogers), <i>Z. malvae</i> (Stål), <i>Z. piceicollis</i> (Stål), <i>Z. signatipennis</i> (Stål)

Leaf Beetles Listed by Plants

<i>Parthenium incanum</i> Kunth in H. B. K. (Asteraceae)	<i>Trirhabda pubicollis</i> Blake
<i>Parthenium integrifolium</i> L. (Asteraceae)	<i>Diabrotica cristata</i> (Harris), <i>D. undecimpunctata</i> Mannerheim
<i>Parthenium</i> sp. (Asteraceae)	<i>Diabrotica virgifera</i> LeConte
<i>Parthenocissus quinquefolia</i> (L.) Planch. (Vitaceae)	<i>Altica chalybea</i> Illiger, <i>A. ignita</i> Illiger, <i>A. woodsi</i> Isely, <i>Colaspis brunnea</i> (Fabricius), <i>Diabrotica virgifera</i> LeConte, <i>Fidia humeralis</i> Lefèvre, <i>F. longipes</i> (Melsheimer), <i>F. viticida</i> Walsh, <i>Glyptina cyanipennis</i> (Crotch), <i>Rhabdopterus picipes</i> (Olivier)
<i>Parthenocissus tricuspidata</i> (Sieb. & Zucc.) Planch. (Vitaceae)	<i>Glyptoscelis squamulata</i> Crotch
<i>Parthenocissus vitacea</i> (Knerr.) A. Hitchc. (Vitaceae)	<i>Colaspis brunnea</i> (Fabricius), <i>C. hesperia</i> Blake
<i>Parthenocissus</i> sp. (Vitaceae)	<i>Brachypnoea puncticollis</i> (Say), <i>Bromius obscurus</i> (Linnaeus), <i>Systema marginalis</i> (Illiger)
Partridge pea Greene)	(see <i>Chamaecrista fasciculata</i> (Michx.))
<i>Pascopyrum smithii</i> (Rydb.) A. Löve (Poaceae)	<i>Diabrotica virgifera</i> LeConte
<i>Paspalum densum</i> Poir. (Poaceae)	<i>Chalepus sanguinicollis</i> (Linnaeus)
<i>Paspalum laeve</i> Michx. (Poaceae)	<i>Colaspis brunnea</i> (Fabricius)
<i>Paspalum notatum</i> Flügge (Poaceae)	<i>Chaetocnema obesula</i> LeConte, <i>C. repens</i> McCrea, <i>Metachroma longicollis</i> Jacoby
<i>Paspalum pubiflorum</i> Rupt. ex Fourn. (Poaceae)	<i>Anisostena funesta</i> (Baly), <i>Chaetocnema pinguis</i> LeConte
<i>Paspalum setaceum</i> Michx. (Poaceae)	<i>Anisostena funesta</i> (Baly)
<i>Paspalum</i> sp. (Poaceae)	<i>Cerotoma atrofasciata</i> Jacoby, <i>Chaetocnema denticulata</i> (Illiger), <i>Gastrophysa polygoni</i> (Linnaeus)
<i>Passiflora edulis</i> Sims. (Passifloraceae)	<i>Disonycha glabrata</i> (Fabricius)
<i>Passiflora filipes</i> Benth. (Passifloraceae)	<i>Disonycha stenosticha</i> Schaeffer
<i>Passiflora foetida</i> L. (Passifloraceae)	<i>Parchicola tibialis</i> (Olivier)
<i>Passiflora incarnata</i> L. (Passifloraceae)	<i>Disonycha discoidea</i> (Fabricius), <i>Epitrix fasciata</i> Blatchley, <i>E. hirtipennis</i> (Melsheimer), <i>Monocesta coryli</i> (Say), <i>Parchicola iris</i> (Olivier), <i>P. tibialis</i> (Olivier)
<i>Passiflora lutea</i> L. (Passifloraceae)	<i>Disonycha discoidea</i> (Fabricius), <i>D. stenosticha</i> Schaeffer, <i>Parchicola iris</i> (Olivier)
<i>Passiflora pittieri</i> Masters (Passifloraceae)	<i>Disonycha collata</i> (Fabricius)
<i>Passiflora quadrangularis</i> L. (Passifloraceae)	<i>Disonycha glabrata</i> (Fabricius)
<i>Passiflora</i> sp. (Passifloraceae)	<i>Charidotella sexpunctata</i> (Fabricius), <i>Ophraella communis</i> LeSage, <i>Paria quadrinotata</i> (Say)
Passion flower	(see <i>Passiflora</i>)
<i>Pastinaca sativa</i> L. (Apiaceae)	<i>Acalymma vittatum</i> (Fabricius), <i>Diabrotica undecimpunctata</i> Mannerheim, <i>Disonycha alternata</i> (Illiger), <i>Systema blanda</i> Melsheimer
Pasture thistle	(see <i>Cirsium pumilum</i> (Nutt.) Spreng.)
Pea	(see <i>Pisum sativum</i> L.)
Peach	(see <i>Prunus persica</i> (L.) Batsch)
Peanut	(see <i>Arachis hypogaea</i> L.)
Pear	(see <i>Pyrus</i>)
Pearl millet Schum.)	(see <i>Pennisetum americanum</i> (L.) K.)
Pecan	(see <i>Carya illinoensis</i> (Wang.) K. Koch)
<i>Pectis papposa</i> W. H. Harv. & A. Gray (Asteraceae)	<i>Luperosoma subsulcatum</i> (Horn)
<i>Pedicularis canadensis</i> L. (Scrophulariaceae)	<i>Longitarsus testaceus</i> (Melsheimer)
<i>Pedimelum argophyllum</i> (Pursh) J. Grimes (Fabaceae)	<i>Odontota horni</i> Smith
<i>Peirania</i> sp. (Fabaceae)	(see <i>Senna</i>)
<i>Pelargonium zonale</i> Aiton (Geraniaceae)	<i>Aphthona abdominalis</i> (Duftschmid)
<i>Peltandra undulata</i> Raf. (Araceae)	<i>Phyllobrotica circumdata</i> (Say), <i>Plateumaris flavipes</i> (Kirby)
<i>Peltandra virginica</i> Raf. (Araceae)	<i>Donacia subtilis</i> Kunze, <i>D. tuberculata</i> Lacordaire, <i>Hippuriphila canadensis</i> Brown, <i>Plateumaris frosti</i> (Schaeffer), <i>P. nitida</i> (Germar), <i>P. rufa</i> (Say), <i>P. shoemakeri</i> (Schaeffer)
<i>Pennisetum americanum</i> (L.) K. Schum. (Poaceae)	<i>Diabrotica undecimpunctata</i> Mannerheim
<i>Pennisetum glaucum</i> (L.) R. Br. (Poaceae)	<i>Chaetocnema denticulata</i> (Illiger), <i>C.</i>

<i>pulicaria</i> Melsheimer	
<i>Pennisetum spicatum</i> (L.) Körn. (Poaceae)	(see <i>Pennisetum glaucum</i> (L.) R. Br.)
<i>Penstemon antirrhinoides</i> Benth. (Scrophulariaceae)	<i>Pseudoluperus maculicollis</i> (LeConte)
<i>Penstemon cordifolius</i> Benth. (Scrophulariaceae)	<i>Dibolia californica</i> Parry
<i>Penstemon ellipticus</i> Coult. & Fisch. (Scrophulariaceae)	<i>Dibolia penstemonis</i> Parry
<i>Penstemon fruticosus</i> (Pursh) Greene (Scrophulariaceae)	<i>Dibolia penstemonis</i> Parry
<i>Penstemon multiflorus</i> Chapm. ex Benth. (Scrophulariaceae)	<i>Kuschelina discicollis</i> (Crotch)
<i>Penstemon scouleri</i> Lindl. (Scrophulariaceae)	<i>Dibolia penstemonis</i> Parry
<i>Penstemon</i> sp. (Scrophulariaceae)	<i>Capraita circumdata</i> (Randall), <i>C. subvittata</i> (Horn), <i>Dibolia catherinia</i> Mignot, <i>D. reyheria</i> Mignot, <i>Kuschelina barberi</i> (Blake), <i>K. vians</i> (Illiger), <i>Phyllobrotica limbata</i> (Fabricius)
<i>Pentaglottis sempervirens</i> Tausch (Boraginaceae)	<i>Longitarsus quadriguttatus</i> (Pontoppidan)
Peony	(see <i>Paeonia</i>)
<i>Peperomia</i> sp. (Piperaceae)	<i>Diabrotica balteata</i> LeConte
Pepper	(see <i>Capsicum</i>)
Peppergrass	(see <i>Lepidium</i>)
Peppermint	(see <i>Mentha x piperita</i> L.)
Pepperwort	(see <i>Lepidium</i>)
<i>Perezia thurberi</i> A. Gray (Asteraceae)	<i>Octotoma marginicollis</i> Horn
<i>Perilla</i> sp. (Lamiaceae)	<i>Systema blanda</i> Melsheimer
Perlette grape	(see <i>Vitis vinifera</i> L.)
<i>Persea americana</i> Mill. (Lauraceae)	<i>Acalymma vittatum</i> (Fabricius), <i>Chaetocnema ectypa</i> Horn, <i>Colaspis floridana</i> Schaeffer, <i>Deloyala guttata</i> (Olivier), <i>Diabrotica balteata</i> LeConte, <i>D. undecimpunctata</i> Mannerheim, <i>Diachus auratus</i> (Fabricius), <i>Disonycha glabrata</i> (Fabricius), <i>Epitrix similis</i> Gentner, <i>Megalostomis pyropyga</i> (Lacordaire), <i>Metachroma floridana</i> Crotch, <i>Myochrous cyphus</i> Blake, <i>Neolema sexpunctata</i> (Olivier), <i>Physonota calochroma</i> (Blake), <i>Rhabdopterus bowditchi</i> Barber, <i>Systema blanda</i> Melsheimer, <i>Typophorus nigratus</i> (Fabricius)
<i>Persea borbonia</i> (L.) Spreng. (Lauraceae)	<i>Metachroma pallidum</i> (Say)
<i>Persea</i> sp. (Lauraceae)	<i>Cerotoma atrofasciata</i> Jacoby, <i>Charidotella sexpunctata</i> (Fabricius)
Persian melon	(see <i>Cucumis melo</i> L.)
<i>Persicaria</i> sp. (Polygonaceae)	(see <i>Polygonum</i>)
Persimmon	(see <i>Diospyros</i>)
<i>Petalostemon</i> sp. (Fabaceae)	<i>Metaparia clytroides</i> Crotch
<i>Petasites</i> sp. (Asteraceae)	<i>Cassida rubiginosa</i> Müller, <i>Chrysolina subsulcata</i> (Mannerheim)
<i>Petroselinum crispum</i> (Mill.) Nyman ex A. W. Hill (Apiaceae)	<i>Diabrotica balteata</i> LeConte, <i>D. undecimpunctata</i> Mannerheim, <i>Disonycha discoidea</i> (Fabricius), <i>Lema trivittata</i> Say, <i>Systema blanda</i> Melsheimer, <i>S. frontalis</i> (Fabricius)
<i>Petroselinum sativum</i> Hoffm. (Apiaceae)	(see <i>Petroselinum crispum</i> (Mill.) Nyman ex A. W. Hill)
<i>Petroselinum</i> sp. (Apiaceae)	<i>Galeruca rudis</i> LeConte
Pe-tsai	(see <i>Brassica rapa</i> L.)
Petunia	(see <i>Petunia</i>)
<i>Petunia x hybrida</i> (Hook.) Vilm. (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa decemlineata</i> (Say)
<i>Petunia integrifolia</i> (Hooker) Schinz & Thellung (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Petunia nyctaginiflora</i> Jussieu (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa decemlineata</i> (Say)
<i>Petunia violacea</i> Lindl. (Solanaceae)	(see <i>Petunia integrifolia</i> (Hooker) Schinz & Thellung)
<i>Petunia</i> sp. (Solanaceae)	<i>Diabrotica undecimpunctata</i> Mannerheim, <i>Epitrix hirtipennis</i> (Melsheimer), <i>E. tuberosa</i> Gentner, <i>Lema daturaphila</i> Kogan & Goeden
<i>Phacelia leucophylla</i> Torr. (Hydrophyllaceae)	<i>Cryptocephalus sanguinicollis</i> Suffrian
<i>Phacelia</i> sp. (Hydrophyllaceae)	<i>Disonycha triangularis</i> (Say), <i>Scelolyperus smaragdinus</i> (LeConte), <i>S. wilcoxi</i> Hatch
<i>Phalaris arundinacea</i> L. (Poaceae)	<i>Oulema melanopus</i> (Linnaeus)
<i>Phalaris canariensis</i> L. (Poaceae)	<i>Oulema melanopus</i> (Linnaeus)
<i>Phalaris</i> sp. (Poaceae)	<i>Diabrotica undecimpunctata</i> Mannerheim

Leaf Beetles Listed by Plants

- Pharbitis cathartica* (Poir.) Choisy (Convolvulaceae) *Chaetocnema confinis* Crotch, *Charidotella emarginata* (Boheman)
- Phaseolus limensis* Macf. (Fabaceae) (see *Phaseolus lunatus* L.)
- Phaseolus lunatus* L. (Fabaceae) *Acalymma vittatum* (Fabricius), *Baliosus nervosus* (Panzer), *Cassida azurea* Fabricius, *Cerotoma ruficornis* (Olivier), *C. trifurcata* (Forster), *Chaetocnema confinis* Crotch, *C. denticulata* (Illiger), *Colaspis brunnea* (Fabricius), *C. hesperia* Blake, *Cryptocephalus obsoletus* Germar, *Diabrotica balteata* LeConte, *D. cristata* (Harris), *D. longicornis* (Say), *D. undecimpunctata* Mannerheim, *Disonycha glabrata* (Fabricius), *Epitrix cucumeris* (Harris), *E. fasciata* Blatchley, *E. hirtipennis* (Melsheimer), *Eusattodera thoracica* (Melsheimer), *Kuschelina floridana* (Blake), *Lema trivittata* Say, *Odontota dorsalis* (Thunberg), *Ophraella notulata* (Fabricius), *Strabala rufa* (Illiger), *Sumitrosis rosea* (Weber), *Systema blanda* Melsheimer, *S. elongata* (Fabricius), *S. frontalis* (Fabricius)
- Phaseolus polystachios* (L.) B.S.P. (Fabaceae) *Cerotoma trifurcata* (Forster), *Xenochalepus potomacus* Butte
- Phaseolus vulgaris* L. (Fabaceae) *Acalymma trivittatum* (Melsheimer), *A. vittatum* (Fabricius), *Altica chalybea* Illiger, *Asphaera abdominalis* (Chevrolat), *Baliosus nervosus* (Panzer), *Brachycoryna pumila* Guérin-Méneville, *Brachypnoea rotundicollis* (Schaeffer), *Cerotoma atrofasciata* Jacoby, *C. ruficornis* (Olivier), *C. trifurcata* (Forster), *Chaetocnema confinis* Crotch, *C. ectypa* Horn, *C. ordinata* White, *C. pulicaria* Melsheimer, *Chrysomela scripta* Fabricius, *Colaspis brunnea* (Fabricius), *C. hesperia* Blake, *C. louisianae* Blake, *C. planicostata* Blake, *Deloyala guttata* (Olivier), *Diabrotica balteata* LeConte, *D. longicornis* (Say), *D. tibialis* Jacoby, *D. undecimpunctata* Mannerheim, *D. virgifera* LeConte, *Disonycha collata* (Fabricius), *D. discoidea* (Fabricius), *D. figurata* Jacoby, *D. fumata* (LeConte), *D. glabrata* (Fabricius), *D. xanthomelas* (Dalman), *Entomoscelis americana* Brown, *Epitrix cucumeris* (Harris), *E. fasciata* Blatchley, *E. hirtipennis* (Melsheimer), *E. similis* Gentner, *E. subcristata* (LeConte), *E. tuberosa* Gentner, *Eusattodera thoracica* (Melsheimer), *Fidia longipes* (Melsheimer), *Galerucella nymphalae* (Linnaeus), *Glyptoscelis squamulata* Crotch, *Lema daturaphila* Kogan & Goeden, *L. solani* Fabricius, *Leptinotarsa decemlineata* (Say), *L. lineolata* (Stål), *Longitarsus luridus* (Scopoli), *Metachroma ustum* LeConte, *Neolema sexpunctata* (Olivier), *Octotoma scabripennis* Guérin-Méneville, *Odontota dorsalis* (Thunberg), *Oulema sayi* (Crotch), *O. variabilis* White, *Pagria signata* (Motschulsky), *Paranapiacaba connexa* (LeConte), *P. tricineta* (Say), *Parorectis sublaevis* (Barber), *Phaedon cyanescens* Stål, *Phyllotreta albionica* (LeConte), *P. cruciferae* (Goeze), *P. decipiens* Horn, *P. punctulata* (Marshall), *P. pusilla* Horn, *P. striolata* (Fabricius), *Physonota alutacea* Boheman, *Strabala acuminata* Blake, *Sumitrosis rosea* (Weber), *Systema bitaeniata* (LeConte), *S. blanda* Melsheimer, *S. elongata* (Fabricius), *S. frontalis* (Fabricius), *S. hudsonias* (Forster), *S. mitis* (LeConte), *S. pallicornis* Schaeffer, *Timarcha cerdo* Stål, *T. intricata* Haldeman, *Typophorus nigratus* (Fabricius), *Xanthogaleruca luteola* (Müller), *Xenochalepus ater* (Weise), *Zygogramma malvae* (Stål), *Z. piceicollis* (Stål), *Z. signatipennis* (Stål)
- Phaseolus* sp. (Fabaceae) *Altica ambiens* LeConte, *A. corni* Woods, *A. ulmi* Woods, *Chalepus bellulus* (Chapuis), *Colaspis floridana* Schaeffer, *Lema confusa* Chevrolat, *Leptinotarsa tlascalana* Stål, *Pachybrachis litigious* Suffrian, *Xenochalepus omogerus* (Crotch)
- Paulothamnus spinescens* A. Gray (Phytolaccaceae) *Disonycha barberi* Blake
- Phellandrium aquaticum* L. (Apiaceae) *Prasocuris phellandrii* (Linnaeus)
- Philadelphus* sp. (Hydrangeaceae) *Rhabdopterus picipes* (Olivier)
- Philodendron bipinnatifidum* (Schott) Schott (Araceae) *Charidotella sexpunctata* (Fabricius)
- Philodendron oxycardium* Schott (Araceae) (see *Philodendron scandens* K. Koch & Sello)
- Philodendron panduraeforme* Kunth (Araceae) *Neolema sexpunctata* (Olivier)
- Philodendron scandens* K. Koch & Sello (Araceae) *Charidotella sexpunctata* (Fabricius)
- Philodendron selloum* K. Koch (Araceae) (see *Philodendron bipinnatifidum* (Schott) Schott)
- Phleum pratense* L. (Poaceae) *Chaetocnema confinis* Crotch, *C. pulicaria* Melsheimer, *Diabrotica undecimpunctata* Mannerheim, *Gastrophysa polygoni* (Linnaeus), *Neochlamisus eubati* (Brown), *N. gibbosus* (Fabricius), *Oulema melanopus* (Linnaeus), *Systema blanda* Melsheimer
- Phleum* sp. (Poaceae) *Chelymorpha cassidea* (Fabricius), *Colaspis brunnea* (Fabricius), *Myochrous denticollis* (Say), *Phyllotreta striolata* (Fabricius), *Tricholochmaea cavicollis* (LeConte)
- Phlox (see *Phlox*)
- Phlox divaricata* L. (Polemoniaceae) *Galeruca externa* Say
- Phlox drummondii* Hook. (Polemoniaceae) *Disonycha alabamiae* Schaeffer
- Phlox paniculata* L. (Polemoniaceae) *Scelolyperus cyanellus* (LeConte)

<i>Phlox subulata</i> L. (Polemoniaceae)	<i>Scelolyperus bimarginatus</i> (Blake)
<i>Phlox</i> sp. (Polemoniaceae)	<i>Charidotella sexpunctata</i> (Fabricius), <i>Epitrix cucumeris</i> (Harris), <i>Scelolyperus liriophilus</i> Wilcox
<i>Phoenix dactylifera</i> L. (Arecaceae)	<i>Pachybrachis insidiosus</i> Fall
<i>Phoradendron coryae</i> Trel. (Viscaceae)	<i>Promecosoma inflatum</i> Lefèvre
<i>Phoradendron</i> sp. (Viscaceae)	<i>Xanthonia pilosa</i> Staines & Weisman
<i>Photinia</i> sp. (Rosaceae)	<i>Rhabdopterus picipes</i> (Olivier)
<i>Phragmites australis</i> (Cav.) Trin. ex Steud. (Poaceae)	<i>Donaciella pubicollis</i> (Suffrian), <i>Psylliodes</i> <i>picus</i> (Marsham)
<i>Phragmites communis</i> Trin. (Poaceae)	(see <i>Phragmites australis</i> (Cav.) Trin. ex Steud.)
<i>Phragmites</i> sp. (Poaceae)	<i>Chaetocnema opulenta</i> Horn, <i>C. pulicaria</i> Melsheimer, <i>Donacia caerulea</i> Olivier, <i>D. subtilis</i> Kunze, <i>Myochrous denticollis</i> (Say), <i>M. whitei</i> Blake, <i>Neolema cordata</i> White, <i>Oulema sayi</i> (Crotch), <i>Plateumaris flavipes</i> (Kirby), <i>P. neomexicana</i> (Schaeffer)
<i>Phryma leptostachya</i> L. (Phrymaceae)	<i>Capraita circumdata</i> (Randall)
<i>Phyla lanceolata</i> (Michx.) Greene (Verbenaceae)	<i>Cyclotrypema furcata</i> (Olivier), <i>Kuschelina</i> <i>laeta</i> (Perbosc), <i>Systema frontalis</i> (Fabricius)
<i>Phyla nodiflora</i> (L.) Greene (Verbenaceae)	<i>Longitarsus tenuicornis</i> Blatchley, <i>Omo-</i> <i>phoita cyanipennis</i> (Fabricius)
<i>Phyla strigulosa</i> (Mart. & Gal.) Moldenke (Verbenaceae)	<i>Longitarsus suspectus</i> Blatchley
<i>Phyllanthus abnormis</i> Baill. (Euphorbiaceae)	<i>Glyptina socia</i> (Horn)
<i>Phyllanthus urinaria</i> L. (Euphorbiaceae)	<i>Ceraltica insolita</i> (Melsheimer)
<i>Physalis acutifolia</i> (Miers) Sandwith (Solanaceae)	<i>Epitrix fasciata</i> Blatchley, <i>Leptinotarsa</i> <i>haldemani</i> (Rogers), <i>L. rubiginosa</i> (Rogers), <i>L. tumamoca</i> Tower, <i>Plagiometriona clavata</i> (Fabricius)
<i>Physalis alkekengi</i> L. (Solanaceae)	<i>Acalymma vittatum</i> (Fabricius), <i>Epitrix</i> <i>brevis</i> Schwarz, <i>E. cucumeris</i> (Harris), <i>E. subcrinita</i> (LeConte), <i>E. tuberosa</i> Gentner, <i>Lema daturaphila</i> Kogan & Goeden, <i>Leptinotarsa decemlineata</i> (Say), <i>Plagiometriona clavata</i> (Fabricius)
<i>Physalis angulata</i> L. (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>E. fasciata</i> Blatchley, <i>Lema trabeata</i> Lacordaire
<i>Physalis angustifolia</i> Nutt. (Solanaceae)	<i>Epitrix solani</i> (Blatchley)
<i>Physalis cinerascens</i> (Dun.) Hitchc. (Solanaceae)	<i>Plagiometriona clavata</i> (Fabricius)
<i>Physalis cordata</i> Mill. (Solanaceae)	<i>Plagiometriona clavata</i> (Fabricius)
<i>Physalis edulis</i> Sims (Solanaceae)	(see <i>Physalis peruviana</i> L.)
<i>Physalis fendleri</i> A. Gray (Solanaceae)	<i>Epitrix fasciata</i> Blatchley, <i>Plagiometriona</i> <i>clavata</i> (Fabricius)
<i>Physalis floridana</i> Rydb. (Solanaceae)	<i>Lema daturaphila</i> Kogan & Goeden
<i>Physalis francheti</i> Masters (Solanaceae)	(see <i>Physalis alkekengi</i> L.)
<i>Physalis grandiflora</i> Hook. (Solanaceae)	<i>Lema daturaphila</i> Kogan & Goeden
<i>Physalis heterophylla</i> Nees (Solanaceae)	<i>Epitrix fasciata</i> Blatchley, <i>E. humeralis</i> Dury, <i>Lema conjuncta</i> Lacordaire, <i>L. daturaphila</i> Kogan & Goeden, <i>L. trivittata</i> Say, <i>Leptinotarsa de-</i> <i>cemlineata</i> (Say), <i>Plagiometriona clavata</i> (Fabricius)
<i>Physalis ixocarpa</i> Hornem. (Solanaceae)	<i>Epitrix brevis</i> Schwarz, <i>E. hirtipennis</i> (Melsheimer), <i>E. tuberosa</i> Gentner, <i>Lema daturaphila</i> Kogan & Goeden, <i>L. nigrovittata</i> (Guérin-Méneville), <i>Leptinotarsa decemlineata</i> (Say)
<i>Physalis lanceolata</i> Michx. (Solanaceae)	<i>Epitrix fasciata</i> Blatchley, <i>E. tuberosa</i> Gentner, <i>Lema daturaphila</i> Kogan & Goeden, <i>Leptinotarsa decemlineata</i> (Say)
<i>Physalis lobata</i> J. Torr. (Solanaceae)	<i>Epitrix subcrinita</i> (LeConte), <i>E. tuberosa</i> Gentner
<i>Physalis longifolia</i> Nutt. (Solanaceae)	<i>Acallepitrax nitens</i> (Horn), <i>Epitrix brevis</i> Schwarz, <i>E. humeralis</i> Dury, <i>E. subcrinita</i> (LeConte), <i>E. tuberosa</i> Gentner, <i>Lema trivittata</i> Say, <i>Leptino-</i> <i>tarsa decemlineata</i> (Say), <i>Plagiometriona clavata</i> (Fabricius)
<i>Physalis mollis</i> Nutt. (Solanaceae)	<i>Acalymma peregrinum</i> (Jacoby), <i>Lema</i> <i>daturaphila</i> Kogan & Goeden
<i>Physalis peruviana</i> L. (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>E. fasciata</i> Blatchley, <i>E. hirtipennis</i> (Melsheimer), <i>Lema daturaphila</i> Kogan & Goeden, <i>L. nigrovittata</i> (Guérin- Méneville), <i>L. trivittata</i> Say
<i>Physalis philadelphica</i> Lam. (Solanaceae)	<i>Lema trivittata</i> Say
<i>Physalis pruinosa</i> L. (Solanaceae)	<i>Epitrix fasciata</i> Blatchley, <i>E. tuberosa</i> Gentner

Leaf Beetles Listed by Plants

- Physalis pubescens* L. (Solanaceae) *Acalymma trivittatum* (Melsheimer),
Diabrotica balteata LeConte, *D. undecimpunctata* Mannerheim, *Epitrix brevis* Schwarz, *E. cucumeris*
(Harris), *E. fasciata* Blatchley, *E. fuscata* Crotch, *E. hirtipennis* (Melsheimer), *E. humeralis* Dury, *E. sub-*
crinita (LeConte), *E. tuberosa* Gentner, *Lema daturaphila* Kogan & Goeden, *L. nigrovittata* (Guérin-Mén-
eville), *L. trabeata* Lacordaire, *Leptinotarsa decemlineata* (Say), *L. haldemani* (Rogers), *L. rubiginosa*
(Rogers)
- Physalis subglabrata* Mackenzie & Bush (Solanaceae) (see *Physalis longifolia* Nutt.)
- Physalis subulata* Rydb. (Solanaceae) *Lema trabeata* Lacordaire
- Physalis virginiana* P. Mill. (Solanaceae) *Epitrix cucumeris* (Harris), *E. fasciata*
Blatchley, *E. humeralis* Dury, *Lema daturaphila* Kogan & Goeden, *L. trivittata* Say
- Physalis viscosa* L. (Solanaceae) *Lema melanofrons* White, *L. trivittata* Say,
Leptinotarsa haldemani (Rogers)
- Physalis wrightii* A. Gray (Solanaceae) (see *Physalis acutifolia* (Miers) Sandwith)
- Physalis* sp. (Solanaceae) *Chaetocnema protensa* LeConte, *C. puli-*
caria Melsheimer, *Graphops simplex* LeConte, *Lema balteata* LeConte, *L. confusa* Chevrolat, *Leptinotar-*
sa juncta (Germar), *Margaridisa atriventris* (Melsheimer), *Omophoita cyanipennis* (Fabricius), *Parorec-*
tis callosa (Boheman), *P. sublaevis* (Barber), *Zygogramma piceicollis* (Stål), *Z. signatipennis* (Stål)
- Physocarpus opulifolius* (L.) Maxim. (Rosaceae) *Calligrapha spiraeae* (Say)
- Physochlaina orientalis* (Bieb.) G. Don fil. (Solanaceae) *Leptinotarsa decemlineata* (Say)
- Physostegia angustifolia* Fern. (Lamiaceae) *Phyllobrotica antennata* Schaeffer, *P.*
physostegiae Riley
- Physostegia digitalis* Small (Lamiaceae) *Kuschelina concinna* (Fabricius), *Phyllo-*
brotica physostegiae Riley
- Physostegia virginiana* (L.) Benth. (Lamiaceae) *Capraita subvittata* (Horn), *Diabrotica*
undecimpunctata Mannerheim, *Phyllobrotica physostegiae* Riley
- Phytolacca americana* L. (Phytolaccaceae) *Acalymma vittatum* (Fabricius), *Brachy-*
pnoea puncticollis (Say), *Chaetocnema confinis* Crotch, *Diabrotica cristata* (Harris), *Epitrix fasciata*
Blatchley, *E. fuscata* Crotch, *E. hirtipennis* (Melsheimer), *Leptinotarsa decemlineata* (Say), *Odontota*
dorsalis (Thunberg), *Parchicola iris* (Olivier)
- Phytolacca decandra* L. (Phytolaccaceae) (see *Phytolacca americana* L.)
- Phytolacca* sp. (Phytolaccaceae) *Diabrotica undecimpunctata* Mannerheim
- Picea excelsa* (Lam.) Link (Pinaceae) *Xanthogaleruca luteola* (Müller)
- Picea glauca* (Moench) Voss (Pinaceae) *Syneta extorris* Brown, *S. ferruginea* (Ger-
mar), *S. pilosa* Brown
- Picea mariana* (P. Mill.) B.S.P. (Pinaceae) *Chaetocnema pulicaria* Melsheimer, *Pla-*
teumaris nitida (Germar)
- Picea pungens* Engelm. (Pinaceae) *Chaetocnema ectypa* Horn, *C. pulicaria*
Melsheimer, *Epitrix hirtipennis* (Melsheimer), *E. subcrinita* (LeConte), *Phyllotreta cruciferae* (Goeze)
- Picea rubens* Sarg. (Pinaceae) *Syneta extorris* Brown
- Picea* sp. (Pinaceae) *Altica ambiens* LeConte, *A. corni* Woods,
Bassareus mammifer (Newman), *Bromius obscurus* (Linnaeus), *Calligrapha alni* Schaeffer, *C. californica*
Linell, *C. lunata* (Fabricius), *C. multipunctata* (Say), *C. philadelphica* (Linnaeus), *C. scalaris* (LeConte),
Capraita circumdata (Randall), *Cerotoma trifurcata* (Forster), *Chrysomela crotchii* Brown, *C. mainensis*
Bechyné, *C. scripta* Fabricius, *Colaspis pini* Barber, *Disonycha latifrons* Schaeffer, *Epitrix cucumeris*
(Harris), *Glyptoscelis pubescens* (Fabricius), *Goniocnema americana* (Schaeffer), *Orsodacne atra*
(Ahrens), *Pachybrachis peccans* Suffrian, *Phratora purpurea* Brown, *Plagiodera versicolora* (Laich-
arting), *Plateumaris pusilla* (Say), *P. rufa* (Say), *Scelolyperus cyanellus* (LeConte), *S. meracus* (Say),
Sumitrosis inaequalis (Weber), *Xanthonia decemnotata* (Say)
- Pickereelweed (see *Pontederia*)
- Pickleweed (see *Salicornia*)
- Picnomon acarna* (L.) Cass. (Asteraceae) *Psylliodes chalcomerus* (Illiger)
- Pieris nitida* (Bartram ex Marshall) Benth. & Hook. f. (Ericaceae) .. *Cryptocephalus incertus* Olivier, *C. lateri-*
tius Newman, *C. tinctus* LeConte
- Pieris* sp. (Ericaceae) *Disonycha caroliniana* (Fabricius)
- Pigweed (see *Amaranthus*)
- Pimenta dioica* (L.) Merr. (Myrtaceae) *Charidotella sexpunctata* (Fabricius)
- Pimenta officinalis* Lindl. (Myrtaceae) (see *Pimenta dioica* (L.) Merr.)
- Pimiento pepper (see *Capsicum annum* L.)
- Pimpinella anisum* L. (Apiaceae) *Lexiphanes guerini* (Perbosc)

Pin cherry	(see <i>Prunus pensylvanica</i> L. f.)
Pine	(see <i>Pinus</i>)
Pineapple	(see <i>Ananas comosus</i> (L.) Merr.)
Pinion pine	(see <i>Pinus edulis</i> Engelm.)
Pink	(see <i>Dianthus</i> and similar genera)
Pin oak	(see <i>Quercus</i>)
Pinto bean	(see <i>Phaseolus vulgaris</i> L.)
<i>Pinus australis</i> Michx. (Pinaceae)	(see <i>Pinus palustris</i> Mill.)
<i>Pinus banksiana</i> Lamb. (Pinaceae)	<i>Glyptoscelis pubescens</i> (Fabricius)
<i>Pinus cebroides</i> Zucc. (Pinaceae)	<i>Pachybrachis macronychus</i> Fall
<i>Pinus contorta</i> Dougl. ex Loudon (Pinaceae)	<i>Glyptoscelis septentrionalis</i> Blake, <i>Plateumaris pusilla</i> (Say), <i>Syneta pilosa</i> Brown
<i>Pinus echinata</i> P. Mill. (Pinaceae)	<i>Epitrix fasciata</i> Blatchley, <i>Glyptoscelis pubescens</i> (Fabricius), <i>Lexiphanes seminulum</i> (Suffrian)
<i>Pinus edulis</i> Engelm. (Pinaceae)	<i>Epitrix subcrinita</i> (LeConte), <i>Spintherophyta violaceipennis</i> (Horn)
<i>Pinus elliotii</i> Engelm. (Pinaceae)	<i>Calligrapha multipunctata</i> (Say), <i>Colaspis pini</i> Barber
<i>Pinus flexilis</i> E. James (Pinaceae)	<i>Pachybrachis vacillatus</i> Fall, <i>Trirhabda nitidicollis</i> LeConte
<i>Pinus lambertiana</i> Dougl. (Pinaceae)	<i>Cryptocephalus castaneus</i> LeConte
<i>Pinus monophylla</i> J. Torr. & Frem. (Pinaceae)	<i>Colaspidea pallipes</i> Fall, <i>Cryptocephalus sanguinicollis</i> Suffrian, <i>Glyptoscelis aridis</i> Van Dyke, <i>G. illustris</i> Crotch
<i>Pinus murrayana</i> Grev. (Pinaceae)	<i>Glyptoscelis juniperi</i> Blake
<i>Pinus nigra</i> Arnold (Pinaceae)	<i>Chaetocnema pulicaria</i> Melsheimer
<i>Pinus palustris</i> Mill. (Pinaceae)	<i>Blepharida rhois</i> (Forster), <i>Colaspis brunnea</i> (Fabricius), <i>C. pini</i> Barber
<i>Pinus ponderosa</i> Dougl. ex Lawson & C. Lawson (Pinaceae)	<i>Altica ambiens</i> LeConte, <i>Colaspidea smaragdula</i> (LeConte), <i>Cryptocephalus atrofasciatus</i> Jacoby, <i>Glyptoscelis illustris</i> Crotch, <i>G. septentrionalis</i> Blake, <i>G. yosemitae</i> Krauss, <i>Pachybrachis fuscipes</i> Fall, <i>P. nobilis</i> Fall, <i>Phyllotreta zimmermanni</i> (Crotch), <i>Plateumaris nitida</i> (Germar), <i>Psylliodes convexior</i> LeConte, <i>Scelolyperus torquatus</i> (LeConte), <i>Syneta carinata</i> Mannerheim
<i>Pinus resinosa</i> Aiton (Pinaceae)	<i>Glyptoscelis pubescens</i> (Fabricius), <i>Tricholochmaea cavicollis</i> (LeConte)
<i>Pinus rigida</i> P. Mill. (Pinaceae)	<i>Bassareus mammifer</i> (Newman), <i>Colaspis brunnea</i> (Fabricius), <i>C. flavocostata</i> Schaeffer, <i>C. pini</i> Barber, <i>Cryptocephalus schreibersii</i> Suffrian, <i>Glyptoscelis pubescens</i> (Fabricius)
<i>Pinus strobiformis</i> Engelm. (Pinaceae)	<i>Xanthonia pinicola</i> Schaeffer
<i>Pinus strobus</i> L. (Pinaceae)	<i>Altica ambiens</i> LeConte, <i>A. ulmi</i> Woods, <i>Calligrapha lunata</i> (Fabricius), <i>C. scalaris</i> (LeConte), <i>Colaspis brunnea</i> (Fabricius), <i>Coleothorpa dominicana</i> (Fabricius), <i>Cryptocephalus notatus</i> Fabricius, <i>Epitrix cucumeris</i> (Harris), <i>E. fasciata</i> Blatchley, <i>Glyptoscelis pubescens</i> (Fabricius), <i>Mantura chrysanthemi</i> (Koch), <i>Microrhopala vittata</i> (Fabricius), <i>Pachybrachis obsoletus</i> Suffrian, <i>Paria quadrinotata</i> (Say), <i>Plagioderma versicolora</i> (Laicharting), <i>Xanthogaleruca luteola</i> (Müller)
<i>Pinus sylvestris</i> L. (Pinaceae)	<i>Cryptocephalus binominis</i> Newman, <i>Glyptoscelis pubescens</i> (Fabricius), <i>Xanthogaleruca luteola</i> (Müller)
<i>Pinus taeda</i> L. (Pinaceae)	<i>Colaspis pini</i> Barber, <i>Cryptocephalus guttulatus</i> Olivier, <i>Disonycha arizonae</i> Casey, <i>D. caroliniana</i> (Fabricius), <i>Distigmoptera pilosa</i> (Illiger), <i>Glyptoscelis pubescens</i> (Fabricius), <i>Kuschelina petaurista</i> (Fabricius), <i>Metachroma orientale</i> Blake, <i>Paria sexnotata</i> (Say)
<i>Pinus virginiana</i> P. Mill. (Pinaceae)	<i>Anomoea laticlavata</i> (Forster), <i>Colaspis pini</i> Barber, <i>Cryptocephalus notatus</i> Fabricius, <i>Dibolia borealis</i> Chevrolat, <i>Glyptoscelis pubescens</i> (Fabricius), <i>Mantura floridana</i> Crotch, <i>Odontota dorsalis</i> (Thunberg), <i>Pachybrachis luctuosus</i> Suffrian, <i>Paria canella</i> (Fabricius), <i>Phyllecthris gentilis</i> (LeConte)
<i>Pinus</i> sp. (Pinaceae)	<i>Altica bimarginata</i> Say, <i>Bassareus formosus</i> (Melsheimer), <i>Bromius obscurus</i> (Linnaeus), <i>Calligrapha philadelphica</i> (Linnaeus), <i>Colaspis favosa</i> Say, <i>C. recurva</i> Blake, <i>Cryptocephalus mutabilis</i> Melsheimer, <i>C. pinicola</i> Schaeffer, <i>C. quadruplex</i> Newman, <i>C. venustus</i> Fabricius, <i>Diabrotica virgifera</i> LeConte, <i>Eusattoderma pini</i> Schaeffer, <i>Glyptoscelis barbata</i> (Say), <i>Longitarsus solidaginis</i> Horn, <i>Luperaltica nigripalpis</i> (LeConte), <i>Metachroma marginale</i>

Leaf Beetles Listed by Plants

- Crotch, *M. quercatum* (Fabricius), *Oomorphus floridanus* Horn, *Opacinota bisignata* (Boheman), *Pachybrachis femoratus* (Olivier), *P. othonus* (Say), *P. pinicola* Rouse & Medvedev, *P. subvittatus* LeConte, *Scelolyperus varipes* (LeConte), *Syneta extorris* Brown, *S. ferruginea* (Germar), *Triarius pini* (Schaeffer), *Trirhabda bacharidis* (Weber), *Xanthonia decemnotata* (Say)
- Pinxter flower (see *Rhododendron periclymenoides* (Michx.) Shinnery)
- Pinyon pine (see *Pinus edulis* Engelm.)
- Piper nigrum* L. (Piperaceae) *Epitrix hirtipennis* (Melsheimer), *Leptinotarsa decemlineata* (Say)
- Piscaria setigera* Piper (Euphorbiaceae) *Glyptina atriventris* Horn
- Pistacia lentiscus* L. (Anacardiaceae) *Longitarsus luridus* (Scopoli)
- Pisum sativum* L. (Fabaceae) *Acalymma trivittatum* (Mannerheim),
A. vittatum (Fabricius), *Cerotoma ruficornis* (Olivier), *C. trifurcata* (Forster), *Chaetocnema acuminata*
 White, *C. quadricollis* Schwarz, *Chelymorpha cassidea* (Fabricius), *Colaspis floridana* Schaeffer, *Dero-*
crepis erythropus (Melsheimer), *Diabrotica balteata* LeConte, *D. longicornis* (Say), *D. undecimpunctata*
 Mannerheim, *Disonychia discoidea* (Fabricius), *Epitrix cucumeris* (Harris), *Lema trivittata* Say, *Leptino-*
tarsa decemlineata (Say), *Omophoita cyanipennis* (Fabricius), *Oulema melanopus* (Linnaeus), *Phyllotreta*
albionica (LeConte), *P. cruciferae* (Goeze), *P. pusilla* Horn, *P. striolata* (Fabricius), *Psylliodes napi*
 (Fabricius), *Sumitrosis pallescens* (Baly), *Systema blanda* Melsheimer
- Pisum* sp. (Fabaceae) *Neolema cordata* White
- Pitanga (see *Eugenia uniflora* L.)
- Pitcher plant (see *Sarracenia*)
- Pitch pine (see *Pinus rigida* P. Mill.)
- Pithecellobium dulce* (Roxb.) Benth. (Fabaceae) *Typophorus nigratus* (Fabricius)
- Pithecellobium pallens* (Benth.) Standl. (Fabaceae) *Cryptocephalus notatus* Fabricius
- Pithecellobium* sp. (Fabaceae) *Metachroma floridanum* Crotch
- Pityopsis graminifolia* (Michx.) Nutt. (Asteraceae) *Microrhopala floridana* Schwarz
- Plagiobothrys arizonicus* (A. Gray) E. L. Greene ex A. Gray (Boraginaceae) *Brachypnoea tristis* (Olivier)
- Plagiobothrys nothofulvus* A. Gray (Boraginaceae) *Colaspidea smaragdula* (LeConte)
- Plagiobothrys* sp. (Boraginaceae) *Longitarsus mancus* LeConte
- Plantago alata* Nakai (Plantaginaceae) *Chrysolina staphylaea* (Linnaeus)
- Plantago aristata* Michx. (Plantaginaceae) *Diabrotica undecimpunctata* Mannerheim,
Dibolia borealis Chevrolat, *Systema blanda* Melsheimer
- Plantago asiatica* L. (Plantaginaceae) *Chrysolina staphylaea* (Linnaeus)
- Plantago cynops* L. (Plantaginaceae) *Longitarsus pratensis* (Panzer)
- Plantago lanceolata* L. (Plantaginaceae) *Brachypnoea puncticollis* (Say), *Capraita*
circumdata (Randall), *Chrysolina staphylaea* (Linnaeus), *Dibolia borealis* Chevrolat, *Longitarsus luridus*
 (Scopoli), *L. pratensis* (Panzer), *L. succineus* (Foudras), *Systema blanda* Melsheimer, *S. hudsonias* (Forster)
- Plantago major* L. (Plantaginaceae) *Dibolia borealis* Chevrolat, *Longitarsus*
luridus (Scopoli), *L. pratensis* (Panzer), *L. succineus* (Foudras), *Systema blanda* Melsheimer, *S. frontalis*
 (Fabricius), *S. hudsonias* (Forster)
- Plantago maritima* L. (Plantaginaceae) *Chrysolina staphylaea* (Linnaeus), *Longi-*
tarsus pratensis (Panzer)
- Plantago media* L. (Plantaginaceae) *Longitarsus luridus* (Scopoli), *L. pratensis*
 (Panzer), *L. rubiginosus* (Foudras)
- Plantago patagonica* Jacq. (Plantaginaceae) *Dibolia borealis* Chevrolat
- Plantago rhodosperma* Dene. (Plantaginaceae) *Capraita texana* (Crotch)
- Plantago rugelii* Decne. (Plantaginaceae) *Capraita circumdata* (Randall), *Dibolia*
borealis Chevrolat, *Systema blanda* Melsheimer
- Plantago sempervirens* Crantz. (Plantaginaceae) *Longitarsus pratensis* (Panzer)
- Plantago virginica* L. (Plantaginaceae) *Systema blanda* Melsheimer
- Plantago* sp. (Plantaginaceae) *Chelymorpha cassidea* (Fabricius), *Epitrix*
cucumeris (Harris), *E. fasciata* Blatchley, *Mantura floridana* Crotch, *Phyllotreta striolata* (Fabricius)
- Plantain (see *Plantago*)
- Platanus x acerifolia* (Ait.) Willd. (Platanaceae) *Neochlamisus platani* (Brown)
- Platanus occidentalis* L. (Platanaceae) *Bassareus lituratus* (Fabricius), *Calligra-*
pha scalaris (LeConte), *Chaetocnema brunnescens* Horn, *Neochlamisus gibbosus* (Fabricius), *N. platani*
 (Brown), *Paria quadriguttata* LeConte, *Plagiometriona clavata* (Fabricius), *Rhabdopterus bottimeri*
 Barber, *R. picipes* (Olivier)

<i>Platanus</i> sp. (Platanaceae)	<i>Dibolia borealis</i> Chevrolat, <i>Phyllotreta striolata</i> (Fabricius)
<i>Pleconax conica</i> (L.) Sourikova (Caryophyllaceae)	<i>Cassida azurea</i> Fabricius
<i>Pleurozium schreberi</i> (Willd. ex Brid.) Mitt. (Hyocomiaceae)	<i>Phyllotreta cruciferae</i> (Goeze), <i>P. striolata</i> (Fabricius)
<i>Pluchea borealis</i> A. Gray (Asteraceae)	<i>Cryptocephalus spurus</i> LeConte
<i>Pluchea odorata</i> (L.) Cass. (Asteraceae)	<i>Omophota cyanipennis</i> (Fabricius)
<i>Pluchea purpurascens</i> (Sw.) DC. (Asteraceae)	(see <i>Pluchea odorata</i> (L.) Cass.)
<i>Pluchea sericea</i> (Nutt.) Cov. (Asteraceae)	<i>Exema deserti</i> Pierce, <i>Metachroma californicum</i> Crotch, <i>Myochrous longulus</i> LeConte
<i>Pluchea</i> sp. (Asteraceae)	<i>Chaetocnema confinis</i> Crotch
Plum	(see <i>Prunus</i>)
<i>Poa compressa</i> L. (Poaceae)	<i>Chaetocnema confinis</i> Crotch, <i>C. pulicaria</i> Melsheimer, <i>Colaspis brunnea</i> (Fabricius), <i>Oulema melanopus</i> (Linnaeus)
<i>Poa pratensis</i> L. (Poaceae)	<i>Chaetocnema opacula</i> LeConte, <i>C. pulicaria</i> Melsheimer, <i>Colaspis brunnea</i> (Fabricius), <i>Oulema melanopus</i> (Linnaeus), <i>Phyllotreta robusta</i> LeConte, <i>Psylliodes cucullatus</i> (Illiger)
<i>Poa</i> sp. (Poaceae)	<i>Chaetocnema ectypa</i> Horn, <i>C. minuta</i> Melsheimer, <i>Cryptocephalus calidus</i> Suffrian, <i>Myochrous denticollis</i> (Say), <i>Phyllotreta striolata</i> (Fabricius), <i>Plateumaris pusilla</i> (Say), <i>Systema blanda</i> Melsheimer, <i>Zygogramma suturalis</i> (Fabricius)
<i>Podophyllum peltatum</i> L. (Berberidaceae)	<i>Margaridisa atriventris</i> (Melsheimer)
Poha	(see <i>Physalis peruviana</i> L.)
<i>Poinciana</i> sp. (Fabaceae)	(see <i>Delonix</i>)
Poison ivy	(see <i>Toxicodendron</i>)
Pokeroot	(see <i>Phytolacca americana</i> L.)
Pokeweed	(see <i>Phytolacca americana</i> L.)
Pole bean	(see <i>Phaseolus vulgaris</i> L.)
<i>Polydichlis</i> sp. (Solanaceae)	(see <i>Nicotiana</i>)
<i>Polygala alba</i> Nutt. (Polygalaceae)	<i>Distigmoptera borealis</i> Blake
<i>Polygonatum multiflorum</i> (L.) All. (Liliaceae)	<i>Liliocercis lili</i> (Scopoli)
<i>Polygonatum odoratum</i> (Mill.) Druce (Liliaceae)	<i>Liliocercis lili</i> (Scopoli)
<i>Polygonatum vulgare</i> Desf. (Liliaceae)	(see <i>Polygonatum odoratum</i> (Mill.) Druce)
<i>Polygonella</i> sp. (Polygonaceae)	<i>Altica blanchardi</i> Fall
<i>Polygonum acre</i> H. B. K. (Polygonaceae)	(see <i>Polygonum punctatum</i> Elliott)
<i>Polygonum affine</i> D. Don (Polygonaceae)	<i>Gastrophysa cyanea</i> Melsheimer
<i>Polygonum amphibium</i> L. (Polygonaceae)	<i>Calligrapha californica</i> Linell, <i>Chaetocnema concinna</i> (Marsham), <i>Colaspis brunnea</i> (Fabricius), <i>C. favosa</i> Say, <i>Diabrotica cristata</i> (Haris), <i>Disomycha limbicollis</i> (LeConte), <i>D. pensylvanica</i> (Illiger), <i>D. procera</i> Casey, <i>D. uniguttata</i> (Say), <i>Donacia hirticollis</i> Kirby, <i>D. subtilis</i> Kunze, <i>Galerucella nymphaeae</i> (Linnaeus), <i>Gastrophysa dissimilis</i> (Say), <i>Systema frontalis</i> (Fabricius)
<i>Polygonum arifolium</i> L. (Polygonaceae)	<i>Gastrophysa cyanea</i> Melsheimer
<i>Polygonum aviculare</i> L. (Polygonaceae)	<i>Altica bimarginata</i> Say, <i>Chaetocnema concinna</i> (Marsham), <i>Gastrophysa cyanea</i> Melsheimer, <i>G. polygona</i> (Linnaeus)
<i>Polygonum baldschuanicum</i> Regel (Polygonaceae)	<i>Gastrophysa polygona</i> (Linnaeus)
<i>Polygonum capitatum</i> Ham. ex D. Don (Polygonaceae)	<i>Gastrophysa cyanea</i> Melsheimer
<i>Polygonum coccineum</i> Muhl. (Polygonaceae)	(see <i>Polygonum amphibium</i> L.)
<i>Polygonum convolvulus</i> L. (Polygonaceae)	<i>Chaetocnema concinna</i> (Marsham), <i>C. pulicaria</i> Melsheimer, <i>Gastrophysa polygona</i> (Linnaeus), <i>Leptinotarsa decemlineata</i> (Say), <i>Psylliodes punctulatus</i> Melsheimer, <i>Systema frontalis</i> (Fabricius)
<i>Polygonum cuspidatum</i> Sieb. & Zucc. (Polygonaceae)	<i>Chaetocnema concinna</i> (Marsham), <i>Gastrophysa cyanea</i> Melsheimer
<i>Polygonum emersum</i> (Michx.) Britt. (Polygonaceae)	(see <i>Polygonum amphibium</i> L.)
<i>Polygonum glaucum</i> Nutt. (Polygonaceae)	<i>Altica vaccinia</i> Blatchley
<i>Polygonum hydropiper</i> L. (Polygonaceae)	<i>Altica bimarginata</i> Say, <i>Chaetocnema concinna</i> (Marsham), <i>Leptinotarsa decemlineata</i> (Say), <i>Systema frontalis</i> (Fabricius), <i>S. hudsonias</i> (Forster)
<i>Polygonum hydropiperoides</i> Michx. (Polygonaceae)	<i>Disomycha pensylvanica</i> (Illiger), <i>Donacia subtilis</i> Kunze, <i>Galerucella nymphaeae</i> (Linnaeus), <i>Lexiphanes saponatus</i> (Fabricius)
<i>Polygonum lapathifolium</i> L. (Polygonaceae)	<i>Chaetocnema concinna</i> (Marsham), <i>Colaspis brunnea</i> (Fabricius), <i>Galerucella nymphaeae</i> (Linnaeus), <i>Systema frontalis</i> (Fabricius)

Leaf Beetles Listed by Plants

- Polygonum maritimum* L. (Polygonaceae) *Altica vaccinia* Blatchley, *Gastrophysa polygoni* (Linnaeus)
- Polygonum mite* Schrank (Polygonaceae) *Chaetocnema concinna* (Marsham)
- Polygonum natans* (Michx.) Eat. (Polygonaceae) *Disonycha uniguttata* (Say), *Galerucella nymphaeae* (Linnaeus)
- Polygonum pennsylvanicum* L. (Polygonaceae) *Diabrotica barberi* Smith & Lawrence, *D. longicornis* (Say), *D. virgifera* LeConte, *Disonycha procera* Casey, *Galerucella nymphaeae* (Linnaeus), *Gastrophysa cyanea* Melsheimer, *Kuschelina vians* (Illiger), *Systema frontalis* (Fabricius), *S. hudsonias* (Forster)
- Polygonum perfoliatum* L. (Polygonaceae) *Altica carinata* Germar, *Colaspis brunnea* (Fabricius), *Diabrotica barberi* Smith & Lawrence, *D. undecimpunctata* Mannerheim, *Mantura floridana* Crotch, *Odontota dorsalis* (Thunberg)
- Polygonum persicaria* L. (Polygonaceae) *Chaetocnema concinna* (Marsham), *Galerucella nymphaeae* (Linnaeus), *Gastrophysa polygoni* (Linnaeus), *Systema blanda* Melsheimer, *S. frontalis* (Fabricius)
- Polygonum punctatum* Elliott (Polygonaceae) *Disonycha conjugata* (Fabricius), *Epitrix cucumeris* (Harris), *Gastrophysa dissimilis* (Say)
- Polygonum Reynoutria* Makino (Polygonaceae) *Gastrophysa cyanea* Melsheimer
- Polygonum sachalinense* F. Schmidt ex Maxim (Polygonaceae) ... *Gastrophysa polygoni* (Linnaeus)
- Polygonum sagittatum* L. (Polygonaceae) *Systema frontalis* (Fabricius)
- Polygonum setaceum* Baldw. ex Elliott (Polygonaceae) *Disonycha pennsylvanica* (Illiger)
- Polygonum* sp. (Polygonaceae) *Brachypnoea margaretae* (Schultz), *Chaetocnema albiventrif* White, *C. confinis* Crotch, *C. subconvexa* White, *Disonycha admirabilis* Blatchley, *Liliocercis lillii* (Scopoli), *Margaridisa atriventris* (Melsheimer), *Myochrous denticollis* (Say), *Neochlamisus moestificus* (Lacordaire), *Neohaemonia flagellata* Askevold, *Neolema sexpunctata* (Olivier), *Pachybrachis virgatus* LeConte, *Paria barnesi* Wilcox, *P. scutellaris* (Notman), *Phaedon armoraciae* (Linnaeus), *Phyllotreta conjuncta* Gentner, *P. striolata* (Fabricius), *Rhabdopterus bottimeri* Barber, *Strabala rufa* (Illiger), *Systema elongata* (Fabricius), *S. marginalis* (Illiger), *S. pallicornis* Schaeffer, *S. pallipes* Schwarz, *Tricholochmaea decora* (Say)
- Polymnia canadensis* L. (Asteraceae) *Babia quadriguttata* (Olivier)
- Polymnia* sp. (Asteraceae) *Sumitrosis inaequalis* (Weber), *Systema marginalis* (Illiger)
- Polytrichum commune* Hedw. (Polytrichaceae) *Phyllotreta striolata* (Fabricius)
- Polytrichum juniperinum* Hedw. (Polytrichaceae) *Phyllotreta striolata* (Fabricius)
- Pond-cypress (see *Taxodium ascendens* Brongn.)
- Ponderosa pine (see *Pinus ponderosa* Dougl. ex Lawson & C. Lawson)
- Pondweed (see *Potamogeton*)
- Pontederia cordata* L. (Pontederiaceae) *Donacia caerulea* Olivier, *D. cincticornis* Newman, *D. fulgens* LeConte, *D. hirticollis* Kirby, *D. piscatrix* Lacordaire, *D. pubescens* LeConte, *D. rugosa* LeConte, *D. subtilis* Kunze
- Pontederia* sp. (Pontederiaceae) *Disonycha conjugata* (Fabricius)
- Poplar (see *Populus*)
- Poppy (see *Argemone*, *Eschscholzia*, *Papaver*, etc.)
- Populus x acuminata* Rydb. (Salicaceae) *Zeugophora scutellaris* Suffrian
- Populus alba* L. (Salicaceae) *Chrysomela knabi* Brown, *C. laurentia* Brown, *C. scripta* Fabricius, *Plagioderia versicolora* (Laicharting)
- Populus angulata* Ait. (Salicaceae) *Chrysomela scripta* Fabricius
- Populus angustifolia* James ex Long (Salicaceae) *Altica ambiens* LeConte, *A. prasina* LeConte, *Chrysomela confluens* Rogers, *C. lineatopunctata* Forster, *C. scripta* Fabricius
- Populus balsamifera* L. (Salicaceae) *Altica bimarginata* Say, *A. prasina* LeConte, *A. subpublicata* LeConte, *Chrysomela crotchii* Brown, *C. falsa* Brown, *C. invicta* Brown, *C. knabi* Brown, *C. laurentia* Brown, *C. lineatopunctata* Forster, *C. mainensis* Bechyné, *C. scripta* Fabricius, *C. semota* Brown, *C. walshi* Brown, *Crepidodera decora* Parry, *C. digna* Parry, *C. nana* (Say), *C. populivora* Parry, *C. solita* Parry, *Goniocercus americana* (Schaeffer), *Phaedon armoraciae* (Linnaeus), *Phratora americana* (Schaeffer), *P. frosti* Brown, *P. purpurea* Brown, *Tricholochmaea decora* (Say), *Zeugophora abnormis* (LeConte)
- Populus x berolinensis* Dipp. (Salicaceae) *Chrysomela scripta* Fabricius

- Populus betulifolia* Pursh (Salicaceae) *Chrysomela scripta* Fabricius
- Populus x canadensis* Moench (Salicaceae) *Chrysomela knabi* Brown, *C. scripta* Fabricius, *Plagiodera versicolora* (Laicharting)
- Populus candicans* Ait. (Salicaceae) *Altica prasina* LeConte, *Chrysomela scripta* Fabricius
- Populus caudina* Tenore (Salicaceae) *Chrysomela scripta* Fabricius
- Populus charkowiensis* Schroed. (Salicaceae) *Chrysomela scripta* Fabricius
- Populus deltoides* Marshall (Salicaceae) *Altica bimarginata* Say, *A. prasina* LeConte, *A. subplicata* LeConte, *Chrysomela crotchii* Brown, *C. interrupta* Fabricius, *C. knabi* Brown, *C. scripta* Fabricius, *Crepidodera nana* (Say), *C. solita* Parry, *C. vaga* Parry, *Cryptocephalus leucomelas* Suffrian, *Plagiodera versicolora* (Laicharting), *Rhabdopterus deceptor* Barber, *Tricholochmaea decora* (Say), *Zeugophora scutellaris* Suffrian
- Populus x euramericana* (Dode) Guinier (Salicaceae) (see *Populus x canadensis* Moench)
- Populus fremontii* S. Wats. (Salicaceae) *Chrysomela confluens* Rogers, *C. scripta* Fabricius
- Populus grandidentata* Michx. (Salicaceae) *Chrysomela crotchii* Brown, *C. knabi* Brown, *C. laurentia* Brown, *C. lineatopunctata* Forster, *C. scripta* Fabricius, *C. walshi* Brown, *Crepidodera nana* (Say), *C. populivora* Parry, *C. solita* Parry, *Phratora purpurea* Brown, *Tricholochmaea decora* (Say), *Zeugophora scutellaris* Suffrian
- Populus x jackii* Sarg. (Salicaceae) *Altica prasina* LeConte, *Chrysomela scripta* Fabricius
- Populus laurifolia* Ledeb. (Salicaceae) *Chrysomela scripta* Fabricius
- Populus monilifera* Ait. (Salicaceae) (see *Populus deltoides* Marshall)
- Populus nigra* L. (Salicaceae) *Altica prasina* LeConte, *Chrysomela confluens* Rogers, *C. interrupta* Fabricius, *C. knabi* Brown, *C. scripta* Fabricius, *Plagiodera versicolora* (Laicharting), *Tricholochmaea decora* (Say), *Zeugophora scutellaris* Suffrian
- Populus occidentalis* (Rydb.) Britton ex Rydb. (Salicaceae) (see *Populus deltoides* Marshall)
- Populus plantierensis* C. K. Schneid. (Salicaceae) *Chrysomela scripta* Fabricius
- Populus sargentii* Dode (Salicaceae) *Disonycha alternata* (Illiger)
- Populus tacamahacca* C. Mill. (Salicaceae) *Chrysomela walshi* Brown, *Tricholochmaea decora* (Say)
- Populus tremuloides* Michx. (Salicaceae) *Altica bimarginata* Say, *A. subplicata* LeConte, *Anomoea laticlavata* (Forster), *Calligrapha multipunctata* (Say), *Chrysomela aeneicollis* (Schaeffer), *C. crotchii* Brown, *C. falsa* Brown, *C. knabi* Brown, *C. laurentia* Brown, *C. lineatopunctata* Forster, *C. scripta* Fabricius, *C. walshi* Brown, *Crepidodera decora* Parry, *C. digna* Parry, *C. heikertingeri* (Lazorko), *C. populivora* Parry, *C. solita* Parry, *C. spenceri* (Lazorko), *Disonycha alternata* (Illiger), *Gonioctena americana* (Schaeffer), *Phratora frosti* Brown, *P. kenaiensis* Brown, *P. purpurea* Brown, *Pseudoluperus longulus* (LeConte), *Tricholochmaea decora* (Say), *T. perplexa* (Fall), *Zeugophora abnormis* (LeConte), *Z. californica* Crotch, *Z. puberula* Crotch, *Z. scutellaris* Suffrian
- Populus trichocarpa* J. Torr. & A. Gray ex Hook. (Salicaceae) *Altica prasina* LeConte, *Chrysomela aeneicollis* (Schaeffer), *C. confluens* Rogers, *C. falsa* Brown, *C. invicta* Brown, *C. mainensis* Bechyné, *C. schaefferi* Brown, *C. scripta* Fabricius, *C. semota* Brown, *Crepidodera heikertingeri* (Lazorko), *C. populivora* Parry, *Pachybrachis donneri* Crotch, *Plagiodera californica* (Rogers), *Tricholochmaea punctipennis* (Mannerheim), *Zeugophora scutellaris* Suffrian
- Populus tristis* Fisch. (Salicaceae) *Chrysomela scripta* Fabricius
- Populus wislizeni* (S. Wats.) Sargent (Salicaceae) *Plagiodera arizonae* Crotch
- Populus* sp. (Salicaceae) *Agelastica alni* (Linnaeus), *Altica cuprascens* Blatchley, *Bassareus mammifer* (Newman), *Calligrapha scalaris* (LeConte), *Dibolia borealis* Chevrolat, *Euphrytus snowi* Schaeffer, *Glyptoscelis albida* LeConte, *G. cryptica* (Say), *Gonioctena notmani* (Schaeffer), *Metachroma angustulum* Crotch, *M. interruptum* (Say), *M. pallidum* (Say), *Monoxia consputa* (LeConte), *M. debilis* LeConte, *M. inornata* Blake, *Orsodacne atra* (Ahrens), *Pachybrachis bivittatus* (Say), *P. peccans* Suffrian, *Paria quadriguttata* LeConte, *Phratora californica* Brown, *Phyllotreta striolata* (Fabricius), *Sumitrosis rosea* (Weber), *Syneta albida* LeConte, *Trichaltica scabricula* (Crotch), *Xanthogaleruca luteola* (Müller), *Xanthonia villosula* (Melsheimer), *Zeugophora atra* Fall, *Z. varians* Crotch, *Zygogramma conjuncta* (Rogers)
- Portulaca oleracea* L. (Portulacaceae) *Diabrotica longicornis* (Say), *Disonycha caroliniana* (Fabricius), *D. collata* (Fabricius), *Epitrix cucumeris* (Harris), *E. fasciata* Blatchley, *Systema blanda* Melsheimer
- Portulaca retusa* Engelm. (Portulacaceae) *Disonycha collata* (Fabricius)

Leaf Beetles Listed by Plants

- Portulaca* sp. (Portulacaceae) *Chelymorpha cassidea* (Fabricius), *Disomycha alternata* (Illiger), *D. arizonae* Casey, *D. punctigera* (LeConte), *Epitrix hirtipennis* (Melsheimer)
- Post oak (see *Quercus stellata* Wengenh.)
- Post oak grape (see *Vitis lincecumii* Buckley)
- Potamogeton alpinus* Balbis (Potamogetonaceae) *Donacia cincticornis* Newman, *D. hirticollis* Kirby
- Potamogeton amplifolius* Tuckerman (Potamogetonaceae) *Donacia cincticornis* Newman, *D. hirticollis* Kirby
- Potamogeton epiphydrus* Raf. (Potamogetonaceae) *Donacia hirticollis* Kirby
- Potamogeton gramineus* L. (Potamogetonaceae) *Donacia cincticornis* Newman
- Potamogeton illinoensis* Morong (Potamogetonaceae) *Neohaemonia nigricornis* (Kirby)
- Potamogeton natans* L. (Potamogetonaceae) *Donacia cincticornis* Newman, *D. hirticollis* Kirby, *Galerucella nymphaeae* (Linnaeus), *Neohaemonia nigricornis* (Kirby)
- Potamogeton richardsonii* (A. Benn.) Rydb. (Potamogetonaceae) . . *Donacia cincticornis* Newman, *D. hirticollis* Kirby, *Neohaemonia nigricornis* (Kirby)
- Potamogeton* sp. (Potamogetonaceae) *Donacia magnifica* LeConte, *D. rugosa* LeConte, *Neohaemonia flagellata* Askevold, *N. melsheimeri* (Lacordaire), *N. minnesotensis* Askevold, *Prasocuris phellandrii* (Linnaeus)
- Potato (see *Solanum tuberosum* L.)
- Potentilla anserina* L. (Rosaceae) *Altica browni* Mohamedsaid, *A. subplicata* LeConte, *Neogalerucella californiensis* (Linnaeus), *N. pusilla* (Duftschmid), *N. quebecensis* (Brown)
- Potentilla canadensis* L. (Rosaceae) *Brachypnoea puncticollis* (Say)
- Potentilla fruticosa* L. (Rosaceae) *Altica caurina* Blake, *Neochlamisus chamaedaphnes* (Brown), *N. eubati* (Brown)
- Potentilla norvegica* L. (Rosaceae) *Brachypnoea puncticollis* (Say)
- Potentilla palustris* (L.) Scop. (Rosaceae) *Galerucella nymphaeae* (Linnaeus), *Neogalerucella quebecensis* (Brown)
- Potentilla simplex* Michx. (Rosaceae) *Chaetocnema concinna* (Marshall), *Neochlamisus fragariae* (Brown), *Plateumaris metallica* (Ahrens), *P. pusilla* (Say)
- Potentilla* sp. (Rosaceae) *Chrysolina subsulcata* (Mannerheim), *Colaspis brunnea* (Fabricius), *Coleothorpa vittigera* (LeConte), *Paria canella* (Fabricius), *P. quadrinotata* (Say)
- Poverty weed (see *Monolepis*)
- Prairie clover (see *Dalea*, *Trifolium*)
- Prairie rose (see *Rosa setigera* Michx.)
- Prairie wall-flower (see *Erysimum asperum* (Nutt.) DC.)
- Prasium majus* L. (Lamiaceae) *Longitarsus luridus* (Scopoli)
- Prenanthes altissima* L. (Asteraceae) *Diabrotica undecimpunctata* Mannerheim
- Prenanthes crepidinea* Michx. (Asteraceae) *Diabrotica longicornis* (Say)
- Prenanthes racemosa* Michx. (Asteraceae) *Diabrotica cristata* (Harris)
- Prickly ash (see *Zanthoxylum*)
- Prickly lettuce (see *Lactuca serriola* L.)
- Prickly-pear (see *Opuntia*)
- Primrose (see *Primula*)
- Primula* sp. (Primulaceae) *Altica marevagans* Horn, *A. torquata* LeConte, *Diabrotica undecimpunctata* Mannerheim, *Epitrix cucumeris* (Harris)
- Priva lappulacea* (L.) Pers. (Verbenaceae) *Kuschelina petaurista* (Fabricius)
- Privet (see *Ligustrum*)
- Proboscidea* sp. (Pedaliaceae) *Diabrotica virgifera* LeConte
- Prosopis chilensis* (Mol.) Stuntz (Fabaceae) (see *Prosopis glandulosa* J. Torr.)
- Prosopis glandulosa* J. Torr. (Fabaceae) *Anomoea flavokansiensis* Moldenke, *A. rufifrons* (Lacordaire), *Babia tetraspilota* LeConte, *Coleorozena lecontei* (Crotch), *C. subnigra* (Schaeffer), *Coleothorpa axillaris* (LeConte), *C. mucorea* (LeConte), *Coscinoptera aeneipennis* (LeConte), *Cryptocephalus cribripennis* LeConte, *C. macculus* White, *C. snowi* Schaeffer, *C. texanus* Schaeffer, *Diabrotica undecimpunctata* Mannerheim, *D. virgifera* LeConte, *Diachus auratus* (Fabricius), *Glyptina atriventris* Horn, *Glyptoscelis prosopis* Schaeffer, *Metaparia opacicornis* (Horn), *M. viridimicans* (Horn), *Neochlamisus velutinus* Karren, *Pachybrachis atomarius* (Melsheimer), *P. brevicornis* Fall, *P. calidus* Fall, *P. laevis* Bowditch, *P. longus* Bowditch, *P. prosopis* Fall, *P. pusillus* Bowditch, *P. uncinatus* Fall, *Paranapiacaba trilineata* (Say), *Saxinis hornii* Fall, *S. knausii* Schaeffer, *S. sonorensis* Jacoby, *Spintherophyta exigua* Schultz, *S. globosa* (Olivier)

- Prosopis juliflora* (Sw.) DC. (Fabaceae) (see *Prosopis glandulosa* J. Torr.)
- Prosopis laevigata* (Humb. & Bonpl. ex Willd.) M. C. Johnst. (Fabaceae) . . . *Pachybrachis calidus* Fall, *P. laevis* Bowditch
- Prosopis reptans* Benth. (Fabaceae) *Diplacaspis prosternalis* (Schaeffer)
- Prosopis* sp. (Fabaceae) *Amphelasma cavum* (Say), *Babia quadriguttata* (Olivier), *Calligrapha multiguttata* Stål, *C. serpentina* (Rogers), *Charidotella emarginata* (Boheman), *Chrysodinopsis basalis* (Jacoby), *Colaspis crinicornis* Schaeffer, *Coleorozena longicollis* (Jacoby), *C. pilatei* (Lacordaire), *C. vittata* (LeConte), *Coleothorpa aenescens* (Crotch), *Cryptocephalus fulguratus* LeConte, *Diabrotica balteata* LeConte, *Exema dispar* Lacordaire, *Glyptina spuria* LeConte, *Glyptoscelis cryptica* (Say), *G. squamulata* Crotch, *Griburius lecontei* Crotch, *G. montezuma* (Suffrian), *Kuschelina flavocyanea* (Crotch), *Lexiphanes mexicanus* (Jacoby), *Megalostomis dimidiata* (Lacordaire), *Monoxia apicalis* Blake, *M. sordida* (LeConte), *Myochrous longulus* LeConte, *Neochlamisus molestificus* (Lacordaire), *Omophoita cyanipennis* (Fabricius), *Pachybrachis alticola* Fall, *P. wickhami* Bowditch, *Pseudochlamys semirufescens* Karren, *Psylliodes verisimilis* Fall, *Saxinis deserticola* Moldenke, *S. omogera* Lacordaire, *S. subpubescens* Schaeffer, *Smaragdina militaris* (LeConte), *Systema sexnotata* Fall, *Triarius vittipennis* (Horn), *Zygogramma piceicollis* (Stål)
- Prune (see *Prunus*)
- Prunella vulgaris* L. (Lamiaceae) *Chrysolina fastuosa* (Scopoli), *Systema frontalis* (Fabricius), *S. hudsonias* (Forster)
- Prunella* sp. (Lamiaceae) *Chrysolina staphylaea* (Linnaeus)
- Prunus americana* Marsh. (Rosaceae) *Altica ignita* Illiger, *Brachypnoea tristis* (Olivier), *Calligrapha pruni* Brown, *C. scalaris* (LeConte), *Chaetocnema confinis* Crotch, *Crepidodera browni* Parry, *C. nana* (Say), *C. violacea* Melsheimer, *Orsodacne atra* (Ahrens), *Synetocephalus bivittatus* (LeConte)
- Prunus amygdalus* (L.) Batsch (Rosaceae) (see *Prunus persica* (L.) Batsch)
- Prunus angustifolia* Marsh. (Rosaceae) *Brachypnoea tristis* (Olivier), *Colaspis brunnea* (Fabricius), *Crepidodera violacea* Melsheimer, *Cryptocephalus lateritius* Newman, *C. notatus* Fabricius
- Prunus armeniaca* L. (Rosaceae) *Acalymma trivittatum* (Mannerheim), *Diabrotica undecimpunctata* Mannerheim, *Saxinis saucia* LeConte, *Syneta albida* LeConte, *Synetocephalus bivittatus* (LeConte)
- Prunus avium* (L.) L. (Rosaceae) *Diabrotica undecimpunctata* Mannerheim, *Rhabdopterus picipes* (Olivier), *Tricholochmaea cavicollis* (LeConte)
- Prunus caroliniana* Ait. (Rosaceae) *Diabrotica undecimpunctata* Mannerheim, *Rhabdopterus picipes* (Olivier)
- Prunus cerasus* L. (Rosaceae) *Rhabdopterus picipes* (Olivier), *Syneta albida* LeConte, *Tricholochmaea cavicollis* (LeConte)
- Prunus domestica* L. (Rosaceae) *Altica chalybea* Illiger, *A. rosae* Woods, *A. ulmi* Woods, *Derocrepis erythropus* (Melsheimer), *Diabrotica balteata* LeConte, *Diachus auratus* (Fabricius), *Eusattodera thoracica* (Melsheimer), *Syneta albida* LeConte
- Prunus dulcis* (Mill.) D. A. Webb (Rosaceae) *Acalymma trivittatum* (Mannerheim), *A. vittatum* (Fabricius), *Diabrotica undecimpunctata* Mannerheim, *Epitrix fasciata* Blatchley, *Gastrophysa cyanea* Melsheimer, *G. dissimilis* (Say), *Metrioidea varicornis* (LeConte), *Saxinis saucia* LeConte, *Synetocephalus bivittatus* (LeConte), *Xanthogaleruca luteola* (Müller)
- Prunus emarginata* Dougl. (Rosaceae) *Miraces placida* (Horn)
- Prunus galatensis* Poir. (Rosaceae) *Acalymma trivittatum* (Mannerheim), *Chrysochus cobaltinus* LeConte, *Diabrotica undecimpunctata* Mannerheim, *Syneta albida* LeConte, *Synetocephalus bivittatus* (LeConte)
- Prunus laurocerasus* L. (Rosaceae) *Lexiphanes affinis* (Haldeman), *L. saponatus* (Fabricius), *Rhabdopterus picipes* (Olivier)
- Prunus mahaleb* L. (Rosaceae) *Agelastica alni* (Linnaeus), *Tricholochmaea cavicollis* (LeConte)
- Prunus maritima* H. Marsh. (Rosaceae) *Cryptocephalus incertus* Olivier, *Disonychia alternata* (Illiger)
- Prunus melanocarpa* (A. Nels.) Rydb. (Rosaceae) *Tricholochmaea cavicollis* (LeConte)
- Prunus mexicana* S. Wats. (Rosaceae) *Colaspis recurva* Blake
- Prunus munsoniana* W. F. Wight & Hedrick (Rosaceae) *Orsodacne atra* (Ahrens)
- Prunus nigra* Ait. (Rosaceae) *Altica sylvia* Malloch, *A. torquata* LeConte, *A. ulmi* Woods

Leaf Beetles Listed by Plants

- Prunus pensylvanica* L. f. (Rosaceae) *Altica ulmi* Woods, *Chaetocnema subviridis* LeConte, *Crepidodera violacea* Melsheimer, *Epitrix cucumeris* (Harris), *Galerucella nymphaeae* (Linnaeus), *Orsodacne atra* (Ahrens), *Rhabdopterus picipes* (Olivier), *Tricholochmaea cavicolis* (LeConte), *T. perplexa* (Fall)
- Prunus persica* (L.) Batsch (Rosaceae) *Acalymma trivittatum* (Mannerheim), *Agroiconota bivittata* (Say), *Altica chalybea* Illiger, *A. ignita* Illiger, *Asphaera lustrans* (Crotch), *Brachypnoea puncticollis* (Say), *B. tristis* (Olivier), *Chaetocnema confinis* Crotch, *Chrysochus auratus* (Fabricius), *C. cobaltinus* LeConte, *Colaspis brunnea* (Fabricius), *C. favosa* Say, *Crepidodera browni* Parry, *C. nana* (Say), *C. violacea* Melsheimer, *Cryptocephalus notatus* Fabricius, *C. tinctus* LeConte, *Derocrepis erythropus* (Melsheimer), *Diabrotica undecimpunctata* Mannerheim, *Disonycha admirabilia* Blatchley, *Distigmoptera apicalis* Blake, *Epitrix cucumeris* (Harris), *E. fasciata* Blatchley, *Eusattodera thoracica* (Melsheimer), *Galerucella nymphaeae* (Linnaeus), *Glyptoscelis alternata* Crotch, *G. longior* LeConte, *G. squamulata* Crotch, *Margaridisa atriventris* (Melsheimer), *Orsodacne atra* (Ahrens), *Paria canella* (Fabricius), *P. fragariae* Wilcox, *P. quadrinotata* (Say), *Phyllotreta zimmermanni* (Crotch), *Syneta albida* LeConte, *S. ferruginea* (Germar), *Synetocephalus bivittatus* (LeConte), *Systema collaris* Crotch, *S. marginalis* (Illiger), *Tricholochmaea cavicolis* (LeConte), *Typophorus nigrinus* (Fabricius)
- Prunus pumila* L. (Rosaceae) *Disonycha arizonae* Casey, *Tricholochmaea cavicolis* (LeConte)
- Prunus salicina* Lindl. (Rosaceae) *Cryptocephalus trizonatus* Suffrian
- Prunus serotina* Ehrh. (Rosaceae) *Crepidodera browni* Parry, *C. violacea* Melsheimer, *Derocrepis erythropus* (Melsheimer), *Eusattodera thoracica* (Melsheimer), *Odontota dorsalis* (Thunberg), *Rhabdopterus picipes* (Olivier), *Tricholochmaea cavicolis* (LeConte)
- Prunus subcordata* Benth. (Rosaceae) *Synetocephalus bivittatus* (LeConte)
- Prunus virginiana* L. (Rosaceae) *Acalymma vittatum* (Fabricius), *Altica prasina* LeConte, *A. ulmi* Woods, *Baliosus nervosus* (Panzer), *Brachypnoea puncticollis* (Say), *B. tristis* (Olivier), *Chaetocnema confinis* Crotch, *C. pulicaria* Melsheimer, *Crepidodera violacea* Melsheimer, *Disonycha pensylvanica* (Illiger), *Eusattodera thoracica* (Melsheimer), *Exema canadensis* Pierce, *Glyptina atriventris* Horn, *Pachybrachis peccans* Suffrian, *P. subfasciatus* LeConte, *Phyllotreta conjuncta* Gentner, *Systema marginalis* (Illiger), *Tricholochmaea rufosanguinea* (Say)
- Prunus* sp. (Rosaceae) *Altica ambiens* LeConte, *A. foliaceae* LeConte, *A. litigata* Fall, *Anomoea laticlavata* (Forster), *Aphthona czwalinae* Weise, *Calligrapha rhoda* Knab, *C. spiraeae* (Say), *Colaspis costipennis* Crotch, *C. hesperia* Blake, *Coleothorpa dominicana* (Fabricius), *Crepidodera populivora* Parry, *Cryptocephalus castaneus* LeConte, *C. mutabilis* Melsheimer, *C. sanguinicollis* Suffrian, *Disonycha caroliniana* (Fabricius), *D. discoidea* (Fabricius), *D. xanthomelas* (Dalman), *Epitrix subcrinita* (LeConte), *Glyptoscelis albida* LeConte, *G. septentrionalis* Blake, *Graphops floridana* Blake, *Neochlamisus gibbosus* (Fabricius), *Odontota scapularis* (Olivier), *Phyllotreta striolata* (Fabricius), *Plateumaris rufa* (Say), *Scelolyperus varipes* (LeConte), *Tricholochmaea decora* (Say), *Xanthonia fuscata* Staines & Weisman, *X. stevensi* Baly
- Pseudotsuga menziesii* (Mirb.) Franco (Pinaceae) *Chaetocnema pulicaria* Melsheimer, *Epitrix subcrinita* (LeConte), *Paria canella* (Fabricius)
- Pseudotsuga taxifolia* (Lam.) Britt. (Pinaceae) (see *Pseudotsuga menziesii* (Mirb.) Franco)
- Psidium cattleianum* Sabine (Myrtaceae) *Colaspis favosa* Say, *Rhabdopterus bowditchi* Barber
- Psidium guajava* L. (Myrtaceae) *Colaspis brunnea* (Fabricius), *Cryptocephalus marginicollis* Suffrian, *C. nigrocinctus* Suffrian, *Longitarsus varicornis* Suffrian, *Metachroma adustum* Suffrian, *M. suturale* LeConte, *Pachybrachis femoratus* (Olivier)
- Psidium* sp. (Myrtaceae) *Metachroma testaceum* Blatchley
- Psilostrophe gnaphalioides* DC. (Asteraceae) *Pteleon brevicornis* (Jacoby)
- Psoralea argophylla* Pursh (Fabaceae) *Colaspis favosa* Say, *Cryptocephalus insertus* Haldeman, *Diabrotica cristata* (Harris), *Distigmoptera borealis* Blake, *Luperosoma parallelum* (Horn)
- Psoralea esculenta* A. Gray (Fabaceae) *Distigmoptera borealis* Blake
- Psoralea physodes* Dougl. ex Hooker (Fabaceae) *Scelolyperus lecontei* (Crotch)
- Psoralea* sp. (Fabaceae) *Coleothorpa dominicana* (Fabricius)
- Psoralidium tenuiflorum* (Pursh) Rydb. (Fabaceae) *Luperosoma parallelum* (Horn)
- Psorothamnus schottii* (Torr.) Barneby (Fabaceae) *Cryptocephalus pallidicinctus* Fall
- Ptelea crenulata* E. L. Greene (Rutaceae) *Scelolyperus varipes* (LeConte)
- Ptelea mollis* M. A. Curtis (Rutaceae) *Diabrotica undecimpunctata* Mannerheim
- Pteridium aquilinum* (L.) Kuhn (Dennstaedtiaceae) *Cryptocephalus notatus* Fabricius, *Microrhopala vittata* (Fabricius), *Oulema concolor* (LeConte)

<i>Pteryxia terebinthina</i> (Hook.) J. M. Coult. & Rose (Apiaceae)	<i>Pseudoluperus longulus</i> (LeConte)
<i>Pteryxia</i> sp. (Apiaceae)	<i>Galeruca rudis</i> LeConte
Pubescent wheatgrass	(see <i>Thinopyrum intermedium</i> (Host) Barkworth & D. R. Dewey)
<i>Pueraria lobata</i> (Willd.) Ohwi (Fabaceae)	(see <i>Pueraria montana</i> (Lour.) Merr.)
<i>Pueraria montana</i> (Lour.) Merr. (Fabaceae)	<i>Cerotoma trifurcata</i> (Forster), <i>Epitrix fasciata</i> Blatchley, <i>E. hirtipennis</i> (Melsheimer), <i>Odontota dorsalis</i> (Thunberg)
<i>Pueraria phaseoloides</i> (Roxb.) Benth. (Fabaceae)	<i>Cerotoma ruficornis</i> (Olivier)
<i>Pueraria thunbergiana</i> (Sieb. & Zucc.) Benth. (Fabaceae)	(see <i>Pueraria montana</i> (Lour.) Merr.)
<i>Pulicaria</i> sp. (Asteraceae)	<i>Cassida rubiginosa</i> Müller
<i>Pulmonaria officinalis</i> L. (Boraginaceae)	<i>Longitarsus luridus</i> (Scopoli), <i>L. quadriguttatus</i> (Pontoppidan)
Pumpkin	(see <i>Cucurbita</i>)
<i>Punica granatum</i> L. (Punicaceae)	<i>Omophota cyanipennis</i> (Fabricius)
Punk-tree	(see <i>Melaleuca quinquenervia</i> (Cav.) S. T. Blake)
Purple loosestrife	(see <i>Lythrum salicaria</i> L.)
Purple nightshade	(see <i>Solanum xanti</i> A. Gray)
<i>Purshia mexicana</i> (D. Don) Henrickson (Rosaceae)	<i>Coleothorpa mucorea</i> (LeConte)
<i>Purshia stansburiana</i> (Torr.) Henrickson (Rosaceae)	<i>Coleothorpa dominicana</i> (Fabricius), <i>C. seminuda</i> (Horn), <i>Cryptocephalus cowniae</i> Schaeffer
<i>Purshia tridentata</i> (Pursh) DC. (Rosaceae)	<i>Altica bimarginata</i> Say, <i>A. prasina</i> LeConte, <i>Chrysomela lineatopunctata</i> Forster, <i>Colaspidea smaragdula</i> (LeConte), <i>Cryptocephalus sanguinicollis</i> Suffrian, <i>Monoxia consputa</i> (LeConte), <i>Pseudoluperus longulus</i> (LeConte), <i>Synetocephalus curvatus</i> (Fall)
Purslane	(see <i>Portulaca</i>)
Pursley	(see <i>Portulaca</i>)
Pussy willow	(see <i>Salix discolor</i> Muhl., <i>S. humilis</i> Marsh.)
<i>Pycnanthemum albescens</i> Torr. & Gray (Lamiaceae)	<i>Diabrotica undecimpunctata</i> Mannerheim
<i>Pycnanthemum tenuifolium</i> Schrad. (Lamiaceae)	<i>Chrysolina auripennis</i> (Say), <i>Diabrotica cristata</i> (Harris)
<i>Pycnanthemum</i> sp. (Lamiaceae)	<i>Bassareus lituratus</i> (Fabricius), <i>Cryptocephalus venustus</i> Fabricius, <i>Paria sellata</i> (Horn)
Pyracantha	(see <i>Pyracantha</i>)
<i>Pyracantha coccinea</i> M. J. Roem. (Rosaceae)	<i>Colaspis brunnea</i> (Fabricius)
<i>Pyracantha</i> sp. (Rosaceae)	<i>Chaetocnema confinis</i> Crotch, <i>Epitrix brevis</i> Schwarz, <i>Paria fragariae</i> Wilcox
<i>Pyrethrum</i> sp. (Asteraceae)	<i>Chaetocnema denticulata</i> (Illiger)
<i>Pyrus communis</i> L. (Rosaceae)	<i>Acalymma vittatum</i> (Fabricius), <i>Colaspidea smaragdula</i> (LeConte), <i>Cryptocephalus notatus</i> Fabricius, <i>C. trizonatus</i> Suffrian, <i>Derocrepis erythropus</i> (Melsheimer), <i>Disonycha pensylvanica</i> (Illiger), <i>Glyptoscelis longior</i> LeConte, <i>Syneta albida</i> LeConte, <i>Systema blanda</i> Melsheimer, <i>S. frontalis</i> (Fabricius)
<i>Pyrus cydonia</i> L. (Rosaceae)	(see <i>Cydonia oblonga</i> Mill.)
<i>Pyrus malus</i> L. (Rosaceae)	(see <i>Malus sylvestris</i> P. Mill.)
<i>Pyrus</i> sp. (Rosaceae)	<i>Acalymma trivittatum</i> (Melsheimer), <i>Altica ambiens</i> LeConte, <i>A. chalybea</i> Illiger, <i>A. foliaceae</i> LeConte, <i>Brachypnoea puncticollis</i> (Say), <i>B. tristis</i> (Olivier), <i>Charidotella sexpunctata</i> (Fabricius), <i>Colaspis brunnea</i> (Fabricius), <i>C. hesperia</i> Blake, <i>Crepidodera nana</i> (Say), <i>C. violacea</i> Melsheimer, <i>Diabrotica balteata</i> LeConte, <i>D. undecimpunctata</i> Mannerheim, <i>Disonycha alternata</i> (Illiger), <i>D. uniguttata</i> (Say), <i>Glyptoscelis albida</i> LeConte, <i>G. alternata</i> Crotch, <i>G. sequoiae</i> Blaisdell, <i>Myochrous squamosus</i> LeConte, <i>Orsodacne atra</i> (Ahrens), <i>Rhabdopterus picipes</i> (Olivier), <i>Systema hudsonias</i> (Forster)
Quackgrass	(see <i>Elymus repens</i> (L.) Gould)
Quail pea	(see <i>Strophostyles helvula</i> (L.) Ell.)
Quaking asp	(see <i>Populus tremuloides</i> Michx.)
Quaking aspen	(see <i>Populus tremuloides</i> Michx.)
<i>Quercus agrifolia</i> Née (Fagaceae)	<i>Syneta seriata</i> LeConte
<i>Quercus alba</i> L. (Fagaceae)	<i>Baliosus nervosus</i> (Panzer), <i>Brachypnoea puncticollis</i> (Say), <i>Capraita quercata</i> (Fabricius), <i>Chlamisus foveolatus</i> (Knoch), <i>Cryptocephalus gut-</i>

Leaf Beetles Listed by Plants

- tulatus* Olivier, *Lupraea picta* (Say), *Odontota dorsalis* (Thunberg), *Pachybrachis othonus* (Say), *P. spumarius* Suffrian, *Sumitrosis inaequalis* (Weber), *Xanthonia serrata* Staines & Weisman, *X. villosula* (Melsheimer)
- Quercus arizonica* Sarg. (Fagaceae) *Cryptocephalus pubiventris* Schaeffer, *Saxinis subpubescens* Schaeffer
- Quercus atriglans* Warb. (Fagaceae) *Octotoma scabripennis* Guérin-Ménéville
- Quercus bicolor* Willd. (Fagaceae) *Chlamisus foveolatus* (Knoch), *Pachybrachis spumarius* Suffrian
- Quercus buckleyi* Nixon & Dorr (Fagaceae) *Brachypnoea texana* (Schaeffer), *Cryptocephalus fulguratus* LeConte, *C. quadruplex* Newman, *Pachybrachis morosus* Haldeman, *P. turbidus* LeConte
- Quercus californica* (Torr.) Cooper (Fagaceae) (see *Quercus turbinella* E. L. Greene)
- Quercus coccifera* L. (Fagaceae) *Longitarsus succineus* (Foudras)
- Quercus coccinea* Münchh. (Fagaceae) *Odontota dorsalis* (Thunberg)
- Quercus douglasii* Hook. & Arn. (Fagaceae) *Androlyperus fulvus* Crotch
- Quercus dumosa* Nutt. (Fagaceae) *Altica ambiens* LeConte
- Quercus ellipsoidalis* E. J. Hill (Fagaceae) *Pachybrachis morosus* Haldeman
- Quercus falcata* Michx. (Fagaceae) *Baliosus nervosus* (Panzer), *Cryptocephalus bispinus* Suffrian, *Rhabdopterus picipes* (Olivier)
- Quercus fusiformis* Small (Fagaceae) *Brachypnoea lecontei* Riley, Clark, & Seeno, *B. texana* (Schaeffer), *Cryptocephalus arizonensis* Schaeffer, *C. fulguratus* LeConte, *C. notatus* Fabricius, *C. quadruplex* Newman, *Pachybrachis cruentus* LeConte, *P. haematodes* Suffrian, *P. luridus* (Fabricius), *P. morosus* Haldeman, *P. turbidus* LeConte, *Smaragdina militaris* (LeConte), *Spintherophyta globosa* (Olivier)
- Quercus gambelii* Nutt. (Fagaceae) *Coleothorpa seminuda* (Horn)
- Quercus garryana* Dougl. ex Hook. (Fagaceae) *Syneta simplex* LeConte
- Quercus glauca* Thunb. (Fagaceae) *Demotina modesta* Baly
- Quercus glaucoides* auct. non Mart. & Gal. (Fagaceae) (see *Quercus laceyi* Small)
- Quercus gravesi* Sudw. (Fagaceae) *Baliosus nervosus* (Panzer), *Xanthonia dentata* Staines & Weisman
- Quercus grisea* Liebm. (Fagaceae) *Lupraea picta* (Say), *Xanthonia dentata* Staines & Weisman
- Quercus harvardii* Rydb. (Fagaceae) *Cryptocephalus implacidus* White
- Quercus hemisphaerica* W. Bartram ex Willd. (Fagaceae) *Baliosus nervosus* (Panzer)
- Quercus hypoleuca* Engelm. (Fagaceae) (see *Quercus hypoleucoides* A. Camus)
- Quercus hypoleucoides* A. Camus (Fagaceae) *Aulacoscelis candezei* Chapuis, *Chlamisus arizonensis* (Linell), *Pachybrachis bullatus* Fall, *Trichaltica tibialis* (Jacoby)
- Quercus ilicifolia* Wengen. (Fagaceae) *Paria opacicollis* LeConte, *Triachus atomus* (Suffrian)
- Quercus imbricaria* Michx. (Fagaceae) *Odontota horni* Smith, *Paria opacicollis* LeConte, *Tymnes metasternalis* (Crotch)
- Quercus incana* Bartr. (Fagaceae) *Cryptocephalus notatus* Fabricius, *Pachybrachis morosus* Haldeman
- Quercus kelloggii* Newb. (Fagaceae) *Syneta seriata* LeConte
- Quercus laceyi* Small (Fagaceae) *Lupraea picta* (Say), *Pachybrachis haematodes* Suffrian
- Quercus laevis* Walt. (Fagaceae) *Cryptocephalus bispinus* Suffrian, *Griburius equestris* (Olivier), *Metachroma anaemicum* Fall, *M. quercatum* (Fabricius)
- Quercus macrocarpa* Michx. (Fagaceae) *Anomoea flavokansiensis* Moldenke, *A. laticlavia* (Forster), *Coleothorpa dominicana* (Fabricius), *Cryptocephalus fulguratus* LeConte, *Pachybrachis pectoralis* (Melsheimer)
- Quercus marilandica* Muenchh. (Fagaceae) *Coleothorpa dominicana* (Fabricius), *Metachroma laeviscolle* Crotch, *M. laterale* Crotch, *M. orientale* Blake, *M. pallidum* (Say), *M. pellucidum* Crotch, *Pachybrachis spumarius* Suffrian, *Rhabdopterus picipes* (Olivier), *Xanthonia stevensi* Baly, *X. striata* Staines & Weisman
- Quercus mohriana* Buckl. ex Rydb. (Fagaceae) *Coleothorpa vittigera* (LeConte), *Cryptocephalus arizonensis* Schaeffer, *Lupraea picta* (Say), *Pachybrachis haematodes* Suffrian, *Smaragdina militaris* (LeConte)
- Quercus muhlenbergii* Engelm. (Fagaceae) *Cryptocephalus quadruplex* Newman

- Quercus nigra* L. (Fagaceae) *Baliosus nervosus* (Panzer), *Demotina modesta* Baly, *Glyptoscelis albicans* Baly, *Metachroma quercatum* (Fabricius), *Pachybrachis femoratus* (Olivier), *P. luridus* (Fabricius), *Systema marginalis* (Illiger), *Xanthonia villosula* (Melsheimer)
- Quercus palustris* Muenchh. (Fagaceae) *Acalymma vittatum* (Fabricius), *Baliosus nervosus* (Panzer), *Brachypnoea puncticollis* (Say), *B. tristis* (Olivier), *Chaetocnema confinis* Crotch, *C. pulicaria* Melsheimer, *Colaspis brunnea* (Fabricius), *Crepidodera nana* (Say), *Cryptocephalus quadruplex* Newman, *Deloyala guttata* (Olivier), *Diabrotica undecimpunctata* Mannerheim, *Epitrix cucumeris* (Harris), *Glyptina spuria* LeConte, *Longitarsus testaceus* (Melsheimer), *Margaridisa atriventris* (Melsheimer), *Metachroma laevicollis* Crotch, *Neochlamisus bebbianae* (Brown), *Odontota dorsalis* (Thunberg), *Systema blanda* Melsheimer
- Quercus pedunculata* Ehrh. (Fagaceae) *Odontota dorsalis* (Thunberg)
- Quercus prinus* L. (Fagaceae) *Odontota dorsalis* (Thunberg)
- Quercus rubra* L. (Fagaceae) *Acalymma vittatum* (Fabricius), *Altica sylvia* Malloch, *A. torquata* LeConte, *A. ulmi* Woods, *Baliosus nervosus* (Panzer), *Brachypnoea puncticollis* (Say), *B. tristis* (Olivier), *Chaetocnema confinis* Crotch, *C. pulicaria* Melsheimer, *Colaspis brunnea* (Fabricius), *Coleothorpa dominicana* (Fabricius), *Crepidodera nana* (Say), *Cryptocephalus notatus* Fabricius, *C. quadruplex* Newman, *Deloyala guttata* (Olivier), *Diabrotica undecimpunctata* Mannerheim, *Epitrix cucumeris* (Harris), *Glyptina spuria* LeConte, *Longitarsus testaceus* (Melsheimer), *Margaridisa atriventris* (Melsheimer), *Metachroma laevicollis* Crotch, *M. pallidum* (Say), *Odontota dorsalis* (Thunberg), *O. scapularis* (Olivier), *Phyllotreta zimmermanni* (Crotch), *Systema blanda* Melsheimer, *S. marginalis* (Illiger), *Xanthonia striata* Staines & Weisman
- Quercus serrata* Thunb. (Fagaceae) *Demotina modesta* Baly
- Quercus stellata* Wangenh. (Fagaceae) *Cryptocephalus notatus* Fabricius, *Griburius scutellaris* (Fabricius), *Metachroma orientale* Blake, *M. pellucidum* Crotch, *Paria opacicollis* LeConte, *Rhabdopterus picipes* (Olivier), *Xanthonia villosula* (Melsheimer)
- Quercus tinctoria* Michx. (Fagaceae) (see *Quercus velutina* Lam.)
- Quercus turbinella* E. L. Greene (Fagaceae) *Syneta seriata* LeConte
- Quercus utahensis* Rydb. (Fagaceae) *Baliosus nervosus* (Panzer), *Cryptocephalus pinicola* Schaeffer, *Pachybrachis calidus* Fall
- Quercus vaseyana* Buckl. (Fagaceae) *Cryptocephalus implacidus* White
- Quercus velutina* Lam. (Fagaceae) *Babia quadriguttata* (Olivier), *Baliosus nervosus* (Panzer), *Brachypnoea puncticollis* (Say), *Pachybrachis atomarius* (Melsheimer), *P. morosus* Haldeman
- Quercus virens* Ait. (Fagaceae) (see *Quercus virginiana* P. Mill.)
- Quercus virginiana* P. Mill. (Fagaceae) *Anomoea laticlavata* (Forster), *Bassareus brunnipes* (Olivier), *Colaspis brunnea* (Fabricius), *C. favosa* Say, *Cryptocephalus lateritius* Newman, *Exema dispar* Lacordaire, *Griburius equestris* (Olivier), *Metachroma anaemicum* Fall, *M. maculipenne* Schwarz
- Quercus* sp. (Fagaceae) *Altica chalybea* Illiger, *Bassareus croceipennis* LeConte, *B. detritus* (Olivier), *B. lituratus* (Fabricius), *Capraita circumdata* (Randall), *C. obsidiana* (Fabricius), *C. sexmaculata* (Illiger), *C. spilonota* (Blake), *Ceraltica insolita* (Melsheimer), *Chaetocnema denticulata* (Illiger), *Charidotella purpurata* (Boheman), *C. sexpunctata* (Fabricius), *Colaspidea smaragdula* (LeConte), *Colaspis flavocostata* Schaeffer, *Coleorozena fulvilabris* (Jacoby), *C. lecontei* (Crotch), *Coleothorpa aenescens* (Crotch), *Cryptocephalus basalis* Suffrian, *C. binominis* Newman, *C. bivius* Newman, *C. mucoreus* LeConte, *C. mutabilis* Melsheimer, *C. quercus* Schaeffer, *C. umbonatus* Schaeffer, *Diabrotica virgifera* LeConte, *Diachus auratus* (Fabricius), *Disonychia glabrata* (Fabricius), *Epitrix fasciata* Blatchley, *Exema conspersa* (Mannerheim), *E. gibber* (Fabricius), *Glyphuroplata pluto* (Newman), *Glyptina bicolor* Horn, *Glyptoscelis cryptica* (Say), *Graphops varians* LeConte, *Griburius montezuma* (Suffrian), *Hemiphrynus intermedius* (Jacoby), *Janbechynea fulvipes* Jacoby, *Jonthonota mexicana* (Champion), *Kuschelina fimbriata* (Forster), *K. vians* (Illiger), *Lema conjuncta* Lacordaire, *Lexiphanes affinis* (Haldeman), *L. saponatus* (Fabricius), *L. seminulum* (Suffrian), *Lupraea discrepans* (Schaeffer), *Metachroma luridum* (Olivier), *M. marginale* Crotch, *Microrhopala erebus* (Newman), *Monoxia consputa* (LeConte), *Neochlamisus bimaculatus* Karren, *N. gibbosus* (Fabricius), *N. insularis* (Schaeffer), *N. tuberculatus* (Klug), *Odontota notata* (Olivier), *Orsodacne atra* (Ahrens), *Orthaltica copalina* (Fabricius), *Oulema brunnicollis* (Lacordaire), *Pachybrachis characteristicus* Suffrian, *P. dilatatus* Suffrian, *P. discoideus* Bowditch, *P. lodingi* Bowditch, *P. nigricornis* (Say), *P. wenzeli* Fall, *Paria quadri-notata* (Say), *P. sexnotata* (Say), *Phaedon cyanescens* Stål, *Phyllobrotica circumdata* (Say), *Plagiometri-ona clavata* (Fabricius), *Promecosoma inflatum* Lefèvre, *Psylliodes chrysocephalus* (Linnaeus), *P. picinus* (Marsham), *Rhabdopterus deceptor* Barber, *Saxinis omogera* Lacordaire, *Scelolyperus lecontei* (Crotch),

Leaf Beetles Listed by Plants

- S. liriophilus* Wilcox, *S. meracus* (Say), *S. torquatus* (LeConte), *Spintherophyta arizonensis* Schultz, *S. violaceipennis* (Horn), *Sumitrosis rosea* (Weber), *Syneta ferruginea* (Germar), *Triachus cerinus* LeConte, *Trirhabda canadensis* (Kirby), *Tymnes oregonensis* (Crotch), *T. tricolor* (Fabricius), *Urodera dilaticollis* Jacoby, *Xanthonia angulata* Staines & Weisman, *X. decemnotata* (Say), *X. pilosa* Staines & Weisman, *Zeugophora scutellaris* Suffrian, *Zygogramma piceicollis* (Stål), *Z. signatipennis* (Stål)
- Quince (see *Cydonia oblonga* Mill.)
- Rabbitbrush (see *Chrysothamnus*, *Ericameria*)
- Racosperma koa* (A. Gray) Pedley (Fabaceae) *Diachus auratus* (Fabricius)
- Radicula armoracia* (L.) Robinson (Brassicaceae) (see *Armoracia rusticana* (Lam.) P. G. Gaertn., B. Mey., & Scherb.)
- Radicula terrestris* (R. Br.) Wooton & Standley (Brassicaceae) *Phyllotreta oregonensis* (Crotch)
- Radicula walteri* (Ell.) Greene (Brassicaceae) *Phyllotreta liebecki* Schaeffer
- Radish (see *Raphanus sativus* L.)
- Rafinesque viburnum (see *Viburnum rafinesquianum* J. A. Schultes)
- Ragweed (see *Ambrosia*)
- Randia aculeata* L. (Rubiaceae) *Triachus cerinus* LeConte
- Randia mitis* L. (Rubiaceae) (see *Randia aculeata* L.)
- Ranunculus acris* L. (Ranunculaceae) *Chrysolina staphylaea* (Linnaeus), *Longitarsus luridus* (Scopoli), *Plateumaris metallica* (Ahrens), *P. rufa* (Say), *Prasocuris vittata* (Olivier), *Tricholochmaea cavicollis* (LeConte), *T. rufosanguinea* (Say)
- Ranunculus gmelinii* DC. (Ranunculaceae) *Prasocuris boreala* (Schaeffer), *P. obliquata* LeConte
- Ranunculus lanuginosus* L. (Ranunculaceae) *Longitarsus luridus* (Scopoli)
- Ranunculus muricatus* L. (Ranunculaceae) *Longitarsus luridus* (Scopoli)
- Ranunculus polyanthemos* L. (Ranunculaceae) *Longitarsus luridus* (Scopoli)
- Ranunculus repens* L. (Ranunculaceae) *Chrysolina staphylaea* (Linnaeus), *Longitarsus luridus* (Scopoli), *Prasocuris vittata* (Olivier)
- Ranunculus septentrionalis* Poir. (Ranunculaceae) *Acalymma vittatum* (Fabricius)
- Ranunculus* sp. (Ranunculaceae) *Diabrotica undecimpunctata* Mannerheim, *Phaedon armoraciae* (Linnaeus), *P. oviformis* (LeConte), *Plateumaris nitida* (Germar), *P. pusilla* (Say), *Prasocuris ovalis* Blatchley
- Rape (see *Brassica napus* L., *B. rapa* L.)
- Rapeseed (see *Brassica napus* L., *B. rapa* L.)
- Raphanus raphanistrum* L. (Brassicaceae) *Phyllotreta cruciferae* (Goeze), *P. undulata* (Kutschera), *P. zimmermanni* (Crotch), *Psylliodes chrysocephalus* (Linnaeus), *Zygogramma piceicollis* (Stål)
- Raphanus rostratus* DC. (Brassicaceae) *Psylliodes chrysocephalus* (Linnaeus)
- Raphanus sativus* L. (Brassicaceae) *Acalymma vittatum* (Fabricius), *Agroiconota bivittata* (Say), *Altica foliaceae* LeConte, *Chaetocnema denticulata* (Illiger), *Deloyala guttata* (Olivier), *Diabrotica cristata* (Harris), *D. longicornis* (Say), *D. undecimpunctata* Mannerheim, *Disonycha triangularis* (Say), *Entomoscelis americana* Brown, *Epitrix cucumeris* (Harris), *E. subcrinita* (LeConte), *E. tuberosa* Gentner, *Galeruca browni* Blake, *Hemiglyptus basalis* (Crotch), *Leptinotarsa decemlineata* (Say), *Microtheca ochroloma* Stål, *Phyllotreta aeneicollis* (Crotch), *P. albionica* (LeConte), *P. armoraciae* (Koch), *P. bipustulata* (Fabricius), *P. conjuncta* Gentner, *P. cruciferae* (Goeze), *P. decipiens* Horn, *P. lewisii* (Crotch), *P. liebecki* Schaeffer, *P. oregonensis* (Crotch), *P. punctulata* (Marshall), *P. pusilla* Horn, *P. ramosa* (Crotch), *P. robusta* LeConte, *P. striolata* (Fabricius), *P. undulata* (Kutschera), *P. zimmermanni* (Crotch), *Psylliodes chrysocephalus* (Linnaeus), *P. convexior* LeConte, *P. punctulatus* Melsheimer, *Systena blanda* Melsheimer, *S. elongata* (Fabricius), *Zygogramma piceicollis* (Stål), *Z. signatipennis* (Stål)
- Rapistrum perenne* (L.) All. (Brassicaceae) *Phyllotreta cruciferae* (Goeze), *P. undulata* (Kutschera), *Psylliodes chrysocephalus* (Linnaeus)
- Rapistrum rugosum* (L.) All. (Brassicaceae) *Phyllotreta punctulata* (Marshall), *Psylliodes chrysocephalus* (Linnaeus)
- Raspberry (see *Rubus*)
- Ratibida columnaris* (Pursh) D. Don (Asteraceae) *Metaparia opacicollis* (Horn)
- Ratibida columnifera* (Nutt.) Woot. & Stan. (Asteraceae) *Diabrotica cristata* (Harris), *Exema dispar* Lacordaire
- Ratibida pinnata* (Vent.) Barnh. (Asteraceae) *Diabrotica cristata* (Harris), *Ophraella communis* LeSage, *Zygogramma suturalis* (Fabricius)
- Ratibida* sp. (Asteraceae) *Brachypnoea convexa* (Say)

Red beet	(see <i>Beta vulgaris</i> L.)
Red birch	(see <i>Betula nigra</i> L.)
Red brome	(see <i>Bromus rubens</i> L.)
Redbud	(see <i>Cercis</i>)
Red cedar	(see <i>Juniperus virginiana</i> L.)
Red clover	(see <i>Trifolium pratense</i> L.)
Red currant	(see <i>Ribes rubrum</i> L.)
Red elm	(see <i>Ulmus rubra</i> Muhl.)
Red-haw	(see <i>Crataegus</i>)
Red maple	(see <i>Acer rubrum</i> L.)
Red oak	(see <i>Quercus rubra</i> L.)
Red-osier dogwood	(see <i>Cornus sericea</i> L.)
Red pine	(see <i>Pinus resinosa</i> Aiton)
Red raspberry	(see <i>Rubus idaeus</i> L.)
Redroot	(see <i>Ceanothus</i>)
Redroot pigweed	(see <i>Amaranthus retroflexus</i> L.)
Red sorrel	(see <i>Rumex acetosella</i> L.)
Redtop	(see <i>Agrostis alba</i> L.)
Reed	(see <i>Phragmites</i> and similar genera)
Reed canarygrass	(see <i>Phalaris arundinacea</i> L.)
Rescue grass	(see <i>Bromus catharticus</i> Vahl.)
<i>Reseda alba</i> L. (Resedaceae)	<i>Psylliodes chrysocephalus</i> (Linnaeus)
<i>Reseda lutea</i> L. (Resedaceae)	<i>Phyllotreta cruciferae</i> (Goeze), <i>P. undulata</i> (Kutschera)
<i>Reseda luteola</i> L. (Resedaceae)	<i>Phyllotreta undulata</i> (Kutschera)
<i>Reseda odorata</i> L. (Resedaceae)	<i>Phyllotreta punctulata</i> (Marsham)
<i>Reseda</i> sp. (Resedaceae)	<i>Epitrix cucumeris</i> (Harris)
<i>Rhamnus californica</i> Eschsch. (Rhamnaceae)	<i>Miraces placida</i> (Horn)
<i>Rhamnus crocea</i> Nutt. (Rhamnaceae)	<i>Pachybrachis melanostictus</i> Suffrian
<i>Rhamnus lycioides</i> L. (Rhamnaceae)	<i>Longitarsus succineus</i> (Foudras)
<i>Rheedia edulis</i> Planch. & Triana (Clusiaceae)	<i>Omophoita cyanipennis</i> (Fabricius)
<i>Rheum officinale</i> Baill. (Polygonaceae)	<i>Gastrophysa cyanea</i> Melsheimer, <i>G. polygoni</i> (Linnaeus), <i>Psylliodes punctulatus</i> Melsheimer
<i>Rheum palmatum</i> L. (Polygonaceae)	<i>Chaetocnema concinna</i> (Marsham)
<i>Rheum rhabarbarum</i> L. (Polygonaceae)	<i>Chaetocnema concinna</i> (Marsham), <i>Diabrotica undecimpunctata</i> Mannerheim, <i>Epitrix cucumeris</i> (Harris), <i>Galerucella nymphaeae</i> (Linnaeus), <i>Gastrophysa cyanea</i> Melsheimer, <i>G. dissimilis</i> (Say), <i>Phyllotreta lewisii</i> (Crotch), <i>Psylliodes affinis</i> (Paykull), <i>P. punctulatus</i> Melsheimer, <i>Scelolyperus varipes</i> (LeConte), <i>Systema blanda</i> Melsheimer
<i>Rheum rhaponticum</i> L. (Polygonaceae)	<i>Aphthona nigriscutis</i> Foudras, <i>Chaetocnema concinna</i> (Marsham), <i>Epitrix cucumeris</i> (Harris), <i>Gastrophysa cyanea</i> Melsheimer, <i>G. polygoni</i> (Linnaeus), <i>Psylliodes punctulatus</i> Melsheimer
<i>Rheum</i> sp. (Polygonaceae)	<i>Gastrophysa formosa</i> (Say)
<i>Rhexia mariana</i> L. (Melastomataceae)	<i>Cryptocephalus venustus</i> Fabricius
<i>Rhinanthus alectorolophus</i> (Scop.) Pollich (Scrophulariaceae)	<i>Longitarsus luridus</i> (Scopoli)
<i>Rhinanthus crista-galli</i> L. (Scrophulariaceae)	<i>Chrysolina staphylaea</i> (Linnaeus)
<i>Rhinanthus major</i> Ehrh. (Scrophulariaceae)	<i>Longitarsus luridus</i> (Scopoli)
<i>Rhizophora mangle</i> L. (Rhizophoraceae)	<i>Chaetocnema brunnescens</i> Horn, <i>Cryptocephalus nigrocinctus</i> Suffrian, <i>Erynephala maritima</i> (LeConte), <i>E. puncticollis</i> (Say), <i>Omophoita cyanipennis</i> (Fabricius)
Rhododendron	(see <i>Rhododendron</i>)
<i>Rhododendron calendulaceum</i> (Michx.) Torr. (Ericaceae)	<i>Tricholochmaea cavicollis</i> (LeConte), <i>T. rufosanguinea</i> (Say)
<i>Rhododendron canadense</i> (L.) Torr. (Ericaceae)	<i>Tricholochmaea kalmiae</i> (Fall), <i>T. rufosanguinea</i> (Say)
<i>Rhododendron canescens</i> (Michx.) Sweet (Ericaceae)	<i>Plateumaris pusilla</i> (Say)
<i>Rhododendron macrophyllum</i> D. Don ex G. Don (Ericaceae)	<i>Timarcha intricata</i> Haldeman
<i>Rhododendron maximum</i> L. (Ericaceae)	<i>Altica ignita</i> Illiger, <i>A. kalmiae</i> (Melsheimer)
<i>Rhododendron nudiflorum</i> (L.) Torr. (Ericaceae)	<i>Prasocuris vittata</i> (Olivier), <i>Tricholochmaea rufosanguinea</i> (Say)

Leaf Beetles Listed by Plants

- Rhododendron periclymenoides* (Michx.) Shinnery (Ericaceae) *Altica ignita* Illiger, *Tricholochmaea rufo-sanguinea* (Say)
- Rhododendron viscosum* (L.) Torr. (Ericaceae) *Systema frontalis* (Fabricius)
- Rhododendron* sp. (Ericaceae) *Altica bimarginata* Say, *A. viridana* Schaeffer, *Chaetocnema opacula* LeConte, *Colaspis costipennis* Crotch, *C. favosa* Say, *C. recurva* Blake, *Cryptocephalus leucomelas* Suffrian, *Diabrotica balteata* LeConte, *D. undecimpunctata* Mannerheim, *Monocesta coryli* (Say), *Neochlamisus assimilis* (Klug), *Odontota dorsalis* (Thunberg), *Rhabdopterus picipes* (Olivier), *Scelolyperus bimarginatus* (Blake), *Spintherophyta globosa* (Olivier)
- Rhodora (see *Rhododendron canadense* (L.) Torr.)
- Rhubarb (see *Rheum rhubarbarum* L.)
- Rhus aromatica* Ait. (Anacardiaceae) *Babia quadriguttata* (Olivier), *Blepharida rhois* (Forster), *Coleothorpa dominicana* (Fabricius), *Cryptocephalus notatus* Fabricius, *C. quadruplex* Newman, *Diachus chlorizans* (Suffrian), *Orsodacne atra* (Ahrens), *Orthaltica copalina* (Fabricius)
- Rhus canadensis* Marsh. (Anacardiaceae) *Blepharida rhois* (Forster)
- Rhus choriophylla* Woot. & Standl. (Anacardiaceae) *Cryptocephalus merus* Fall, *Pachybrachis contractifrons* Fall
- Rhus copallina* L. (Anacardiaceae) *Babia quadriguttata* (Olivier), *Blepharida rhois* (Forster), *Coleothorpa dominicana* (Fabricius), *Cryptocephalus nanus* Fabricius, *C. notatus* Fabricius, *Diabrotica cristata* (Harris), *Diachus chlorizans* (Suffrian), *Lexiphanes affinis* (Haldeman), *Orthaltica copalina* (Fabricius), *O. melina* Horn, *Triachus atomus* (Suffrian)
- Rhus cotinus* Nutt. (Anacardiaceae) (see *Cotinus coggygria* Scop.)
- Rhus glabra* L. (Anacardiaceae) *Anomoea laticlavata* (Forster), *Babia quadriguttata* (Olivier), *Bassareus mammifer* (Newman), *Blepharida rhois* (Forster), *Charidotella sexpunctata* (Fabricius), *Coleothorpa axillaris* (LeConte), *C. dominicana* (Fabricius), *C. seminuda* (Horn), *Cryptocephalus basalis* Suffrian, *C. mucoreus* LeConte, *C. notatus* Fabricius, *C. quadruplex* Newman, *Diabrotica cristata* (Harris), *D. virgifera* LeConte, *Metrioidea brunnea* (Crotch), *Orthaltica copalina* (Fabricius), *O. melina* Horn, *Pachybrachis abdominalis* (Say), *P. atomarius* (Melsheimer), *P. brevicollis* LeConte, *P. pectoralis* (Melsheimer), *P. spumarius* Suffrian, *Rhabdopterus picipes* (Olivier), *Triachus atomus* (Suffrian), *T. vacuus* LeConte
- Rhus hirta* (L.) Sudw. (Anacardiaceae) (see *Rhus typhina* L.)
- Rhus integrifolia* (Nutt. ex Torr. & A. Gray) Benth. & Hook. f. ex Rothr. (Anacardiaceae) . . . *Coleothorpa mucorea* (LeConte), *Orthaltica reticollis* (LeConte)
- Rhus lanceolata* (Gray) Britt. (Anacardiaceae) *Anomoea rufifrons* (Lacordaire), *Orthaltica melina* Horn
- Rhus laurina* Nutt. (Anacardiaceae) *Orthaltica reticollis* (LeConte)
- Rhus microphylla* Englem. ex A. Gray (Anacardiaceae) *Blepharida rhois* (Forster)
- Rhus ovata* S. Wats. (Anacardiaceae) *Orthaltica reticollis* (LeConte)
- Rhus terebinthifolia* Schlecht. & Cham. (Anacardiaceae) *Triachus cerinus* LeConte
- Rhus toxicodendron* L. (Anacardiaceae) (see *Toxicodendron radicans* (L.) Kuntze)
- Rhus trilobata* Nutt. ex Torr. & A. Gray (Anacardiaceae) *Blepharida rhois* (Forster)
- Rhus typhina* L. (Anacardiaceae) *Blepharida rhois* (Forster), *Odontota dorsalis* (Thunberg), *Orthaltica copalina* (Fabricius)
- Rhus* sp. (Anacardiaceae) *Bassareus formosus* (Melsheimer), *Brachypnoea puncticollis* (Say), *Calligrapha spiraeae* (Say), *Chrysolina auripennis* (Say), *Chrysomela crotchii* Brown, *Derospidea brevicollis* (LeConte), *Epitrix cucumeris* (Harris), *E. fasciata* Blatchley, *Gastrophysa cyanea* Melsheimer, *Lexiphanes saponatus* (Fabricius), *Orthaltica parkeri* White, *Pachybrachis crassus* Bowditch, *P. tridens* (Melsheimer), *Sumitrosis inaequalis* (Weber), *Systema blanda* Melsheimer, *Trirhabda canadensis* (Kirby)
- Rhynchelytrum repens* (Willd.) C. E. Hubb. (Poaceae) *Bassareus lituratus* (Fabricius), *Oulema cornuta* (Fabricius), *Pachybrachis varians* Bowditch
- Rhynchosia minima* (L.) DC. (Fabaceae) *Cryptocephalus brunneovittatus* Schaeffer
- Ribes americanum* P. Mill. (Grossulariaceae) *Altica ribis* Brown, *Tricholochmaea ribicola* (Brown)
- Ribes aureum* Pursh (Grossulariaceae) *Scelolyperus transitus* (Horn)
- Ribes divaricatum* Dougl. (Grossulariaceae) *Scelolyperus transitus* (Horn)
- Ribes floridum* L'Her. (Grossulariaceae) (see *Ribes americanum* P. Mill.)
- Ribes grossularia* L. (Grossulariaceae) (see *Ribes reclinatum* L.)
- Ribes inerme* Rydb. (Grossulariaceae) *Scelolyperus phenacus* Wilcox
- Ribes nigrum* L. (Grossulariaceae) *Systema frontalis* (Fabricius)

- Ribes reclinatum* L. (Grossulariaceae) *Altica bimarginata* Say, *A. ulmi* Woods
- Ribes roezlii* E. A. Regel (Grossulariaceae) *Scelolyperus carinatus* Wilcox
- Ribes rubrum* L. (Grossulariaceae) *Cryptocephalus notatus* Fabricius, *Epitrix tuberosa* Gentner, *Leptinotarsa decemlineata* (Say), *Tricholochmaea ribicola* (Brown)
- Ribes sativum* (Reichb.) Syme (Grossulariaceae) (see *Ribes rubrum* L.)
- Ribes uva-crispa* L. (Grossulariaceae) *Chrysolina fastuosa* (Scopoli)
- Ribes vulgare* Lam. (Grossulariaceae) (see *Ribes rubrum* L.)
- Ribes* sp. (Grossulariaceae) *Bassareus mammifer* (Newman), *Blepharidactylus rhois* (Forster), *Coleothorpa axillaris* (LeConte), *Diabrotica undecimpunctata* Mannerheim, *Galerucella nymphaeae* (Linnaeus), *Lema daturaphila* Kogan & Goeden, *Pachybrachis bullatus* Fall, *Pyrrhalta viburni* (Paykull), *Scelolyperus laticeps* (Horn), *Syneta albida* LeConte
- Rice (see *Oryza sativa* L.)
- Ricinus communis* L. (Euphorbiaceae) *Aphthona abdominalis* (Duftschmid), *A. czwalinae* Weise, *A. lacertosa* (Rosenhauer), *A. nigriscutis* Foudras, *Chaetocnema denticulata* (Illiger), *Cryptocephalus nigrocinctus* Suffrian, *Diabrotica balteata* LeConte, *Disonychia glabrata* (Fabricius), *Hilarocassis exclamationis* (Linnaeus), *Lema daturaphila* Kogan & Goeden
- Ricinus* sp. (Euphorbiaceae) *Cerotoma atrofasciata* Jacoby, *Epitrix cucumeris* (Harris)
- Rindera umbellata* (Waldst. & Kit.) Bunge (Boraginaceae) *Longitarsus quadriguttatus* (Pontoppidan)
- River birch (see *Betula nigra* L.)
- Robinia hispida* L. (Fabaceae) *Odontota dorsalis* (Thunberg), *Sumitrosis rosea* (Weber)
- Robinia neomexicana* A. Gray (Fabaceae) *Baliosus nervosus* (Panzer), *Sumitrosis inaequalis* (Weber), *S. rosea* (Weber), *Xenochalepus robiniae* Butte
- Robinia pseudoacacia* L. (Fabaceae) *Anomoea flavokansiensis* Moldenke, *A. laticlavata* (Forster), *Baliosus nervosus* (Panzer), *Bassareus mammifer* (Newman), *Brachypnoea puncticolis* (Say), *B. tristis* (Olivier), *Cerotoma trifurcata* (Forster), *Colaspis brunnea* (Fabricius), *Deloyala guttata* (Olivier), *Derocrepis aesculi* (Dury), *D. carinata* (Linell), *D. erythropus* (Melsheimer), *Diabrotica undecimpunctata* Mannerheim, *Epitrix fasciata* Blatchley, *Labidomera clivicollis* (Kirby), *Myochrous denticollis* (Say), *Odontota dorsalis* (Thunberg), *Orthaltica copalina* (Fabricius), *Pachybrachis atomarius* (Melsheimer), *P. obsoletus* Suffrian, *P. pectoralis* (Melsheimer), *Paria aterrima* (Olivier), *Phyllecthris gentilis* (LeConte), *Phyllotreta zimmermanni* (Crotch), *Sumitrosis inaequalis* (Weber), *S. rosea* (Weber), *Tymnes chrysis* (Olivier), *Zygogramma suturalis* (Fabricius)
- Robinia* sp. (Fabaceae) *Anomoea rufifrons* (Lacordaire), *Babia quadriguttata* (Olivier), *B. tetraspilota* LeConte, *Pachybrachis precarius* Fall, *Paria quadrinotata* (Say), *Typophorus nigratus* (Fabricius), *Xenochalepus omogerus* (Crotch)
- Rockcress (see *Arabis*)
- Rock elm (see *Ulmus thomasi* Sarg.)
- Rocket (see *Barbarea*, *Cakile*, *Diplotaxis*, *Eruca*, *Erucastrum*, *Erysimum*, *Hesperis*, etc.)
- Romaine lettuce (see *Lactuca sativa* L.)
- Romano pole bean (see *Phaseolus vulgaris* L.)
- Rorippa amphibia* (L.) Bess. (Brassicaceae) *Phaedon armoraciae* (Linnaeus), *Phyllotreta cruciferae* (Goeze), *P. undulata* (Kutschera)
- Rorippa austriaca* (Crantz) Spach (Brassicaceae) *Phyllotreta cruciferae* (Goeze), *P. undulata* (Kutschera)
- Rorippa indica* (L.) Hiern (Brassicaceae) *Phyllotreta striolata* (Fabricius)
- Rorippa islandica* (Oeder ex Murray) Borbás (Brassicaceae) *Entomoscelis americana* Brown, *Phyllotreta armoraciae* (Koch), *P. bipustulata* (Fabricius), *P. cruciferae* (Goeze), *P. striolata* (Fabricius), *P. zimmermanni* (Crotch)
- Rorippa nasturtium* Rusby (Brassicaceae) (see *Rorippa nasturtium-aquaticum* (L.) Hayek.)
- Rorippa nasturtium-aquaticum* (L.) Hayek. (Brassicaceae) *Microtheca ochroloma* Stål, *Neolema ovalis* White, *Phaedon armoraciae* (Linnaeus), *P. laevigatus* (Duftschmid), *P. prasinellus* (LeConte), *P. viridis* Melsheimer, *Phyllotreta albionica* (LeConte), *P. conjuncta* Gentner, *P. cruciferae* (Goeze), *P. pusilla* Horn, *P. ramosa* (Crotch), *P. robusta* LeConte, *P. striolata* (Fabricius), *P. zimmermanni* (Crotch), *Psylliodes chrysocephalus* (Linnaeus), *P. napi* (Fabricius), *P. punctulatus* Melsheimer
- Rorippa obtusa* (Nutt. ex Torr. & A. Gray) N. L. Britt. (Brassicaceae) *Phyllotreta liebecki* Schaeffer
- Rorippa palustris* (L.) Besser (Brassicaceae) *Entomoscelis americana* Brown, *Phyllotre-*

Leaf Beetles Listed by Plants

- ta armoraciae* (Koch), *P. attenuata* Smith, *P. bipustulata* (Fabricius), *P. conjuncta* Gentner, *P. constricta* Smith, *P. oregonensis* (Crotch), *P. striolata* (Fabricius), *P. zimmermanni* (Crotch)
- Rorippa sinuata* (Nutt. ex Torr. & A. Gray) A. Hitchc. (Brassicaceae) . . . *Phyllotreta pusilla* Horn
- Rorippa sphaerocarpa* (A. Gray) Britton (Brassicaceae) *Phyllotreta pusilla* Horn
- Rorippa sylvestris* (L.) Bess. (Brassicaceae) *Phyllotreta cruciferae* (Goeze), *P. striolata* (Fabricius), *P. undulata* (Kutschera)
- Rorippa terrestris* (R. Br.) A. Nelson (Brassicaceae) (see *Radicula terrestris* (R. Br.) Wooton & Standley)
- Rorippa walteri* (Ell.) C. Mohr (Brassicaceae) (see *Radicula walteri* (Ell.) Greene)
- Rorippa* sp. (Brassicaceae) *Colaspis viriditincta* Schaeffer, *Diabrotica undecimpunctata* Mannerheim
- Rosa carolina* L. (Rosaceae) *Systema frontalis* (Fabricius)
- Rosa humilis* Marsh. (Rosaceae) *Brachypnoea puncticollis* (Say), *Diabrotica undecimpunctata* Mannerheim
- Rosa minutifolia* Englem. (Rosaceae) *Pseudoluperus maculicollis* (LeConte)
- Rosa montana* Chaix (Rosaceae) *Scelolyperus schwarzii* Horn
- Rosa multiflora* Thunb. ex Murr. (Rosaceae) *Fidia viticida* Walsh, *Neogalerucella californiensis* (Linnaeus)
- Rosa nitida* Willd. (Rosaceae) *Systema frontalis* (Fabricius)
- Rosa nuktana* K. E. Presl (Rosaceae) *Altica probata* Fall
- Rosa pratincola* Greene (Rosaceae) *Epitrix fasciata* Blatchley
- Rosa setigera* Michx. (Rosaceae) *Neogalerucella californiensis* (Linnaeus), *Paria canella* (Fabricius), *P. pratensis* Balsbaugh
- Rosa virginiana* P. Mill. (Rosaceae) *Altica rosae* Woods, *A. ulmi* Woods
- Rosa woodsii* Lindl. (Rosaceae) *Altica bimarginata* Say
- Rosa ywara* Carr. (Rosaceae) *Altica corni* Woods, *A. rosae* Woods, *A. ulmi* Woods
- Rosa* sp. (Rosaceae) *Acalymma vittatum* (Fabricius), *Agelastica alni* (Linnaeus), *Altica ambiens* LeConte, *A. canadensis* Gentner, *A. gloriosa* Blatchley, *A. ignita* Illiger, *A. litigata* Fall, *A. pretiosa* Schaeffer, *A. tombacina* Mannerheim, *Brachypnoea margaretae* (Schultz), *Calligrapha bidenticola* Brown, *C. lunata* (Fabricius), *Charidotella sexpunctata* (Fabricius), *Chelymorpha cassidea* (Fabricius), *Colaspis brunnea* (Fabricius), *C. floridana* Schaeffer, *C. hesperia* Blake, *C. louisianae* Blake, *C. recurva* Blake, *Coleothorpa dominicana* (Fabricius), *Cryptocephalus castaneus* LeConte, *C. nigrocinctus* Suffrian, *C. notatus* Fabricius, *C. sanguinicollis* Suffrian, *C. trizonatus* Suffrian, *Derocrepis erythropus* (Melsheimer), *Diabrotica balteata* LeConte, *D. cristata* (Harris), *D. longicornis* (Say), *Diachus auratus* (Fabricius), *Disonychia alternata* (Illiger), *Galerucella nymphaeae* (Linnaeus), *Glyptoscelis parvula* Blaisdell, *G. squamulata* Crotch, *Griburius equestris* (Olivier), *Liliocercis lilii* (Scopoli), *Metachroma adustum* Suffrian, *Microtheca ochroloma* Stål, *Neochlamisus platani* (Brown), *Oulema melanopus* (Linnaeus), *Pachybrachis hybridus* Suffrian, *P. obsoletus* Suffrian, *Paria fragariae* Wilcox, *P. quadrinotata* (Say), *Phyllotreta bipustulata* (Fabricius), *Pseudoluperus longulus* (LeConte), *Psylliodes affinis* (Paykull), *Rhabdopterus bottimeri* Barber, *R. picipes* (Olivier), *Saxinis saucia* LeConte, *Scelolyperus cyanellus* (LeConte), *S. meracus* (Say), *S. varipes* (LeConte), *Sermylassa halensis* (Linnaeus), *Timarcha intricata* Haldeman, *Tricholochmaea cavicollis* (LeConte), *Xanthonia villosula* (Melsheimer), *Zygogramma exclamationis* (Fabricius)
- Rose (see *Rosa*)
- Rosebay rhododendron (see *Rhododendron maximum* L.)
- Rose mallow (see *Hibiscus*)
- Rose-of-Sharon (see *Hibiscus syriacus* L.)
- Rosinweed (see *Silphium*)
- Rosmarinus officinalis* L. (Lamiaceae) *Lexiphanes saponatus* (Fabricius)
- Rotala ramosior* (L.) Koehne (Lythraceae) *Neogalerucella californiensis* (Linnaeus), *N. pusilla* (Duftschmid)
- Rottboellia exaltata* (L.) L. f. (Poaceae) *Diabrotica balteata* LeConte
- Rough cinquefoil (see *Potentilla norvegica* L.)
- Rubber rabbitbrush (see *Ericameria nauseosa* (Pall. ex Pursh) Nesom & Baird)
- Rubus allegheniensis* Porter ex L. H. Bailey (Rosaceae) *Neochlamisus eubati* (Brown)
- Rubus arcticus* L. (Rosaceae) *Galerucella nymphaeae* (Linnaeus)
- Rubus argutus* Link (Rosaceae) *Neochlamisus gibbosus* (Fabricius)
- Rubus caesius* L. (Rosaceae) *Pachybrachis othonus* (Say)

- Rubus chamaemorus* L. (Rosaceae) *Galerucella nymphaeae* (Linnaeus), *Neogalerucella stefanssoni* (Brown)
- Rubus corchorifolius* L. f. (Rosaceae) *Derocrepis erythropus* (Melsheimer), *Epitrix fasciata* Blatchley, *Neochlamisus gibbosus* (Fabricius), *Systema blanda* Melsheimer
- Rubus deliciosus* J. Torr. (Rosaceae) *Scelolyperus nigrocyaneus* (LeConte)
- Rubus flagellaris* Willd. (Rosaceae) *Neochlamisus bimaculatus* Karren
- Rubus frondosus* Bigelow (Rosaceae) *Neochlamisus eubati* (Brown)
- Rubus fruticosus* L. (Rosaceae) *Neochlamisus gibbosus* (Fabricius)
- Rubus idaeus* L. (Rosaceae) *Neogalerucella californiensis* (Linnaeus), *Orsodacne atra* (Ahrens), *Paria canella* (Fabricius), *P. quadrinotata* (Say), *Rhabdopterus picipes* (Olivier), *Xanthonia decemnotata* (Say)
- Rubus neomexicanus* A. Gray (Rosaceae) *Babia costalis* (Goersberg)
- Rubus occidentalis* L. (Rosaceae) *Altica ambiens* LeConte, *Neochlamisus chamaedaphnes* (Brown), *Paria quadrinotata* (Say), *Syneta hamata* Horn
- Rubus odoratus* L. (Rosaceae) *Pachybrachis othonus* (Say), *Paria quadrinotata* (Say)
- Rubus parviflorus* Nutt. (Rosaceae) *Scelolyperus schwarzii* Horn, *Timarcha cerdo* Stål, *T. intricata* Haldeman
- Rubus procerus* P. J. Muell. (Rosaceae) *Paria quadrinotata* (Say), *Timarcha intricata* Haldeman
- Rubus rosifolius* Sm. (Rosaceae) *Cryptocephalus nigrocinctus* Suffrian
- Rubus saxatilis* L. (Rosaceae) *Galerucella nymphaeae* (Linnaeus)
- Rubus spectabilis* Pursh (Rosaceae) *Timarcha cerdo* Stål, *T. intricata* Haldeman
- Rubus strigosus* Michx. (Rosaceae) (see *Rubus idaeus* L.)
- Rubus trivialis* Michx. (Rosaceae) *Neochlamisus gibbosus* (Fabricius)
- Rubus ursinus* Cham. & Schlecht. (Rosaceae) *Paria quadrinotata* (Say)
- Rubus villosus* Thunb. (Rosaceae) (see *Rubus corchorifolius* L. f.)
- Rubus vitifolius* Cham. & Schldtl. (Rosaceae) *Timarcha cerdo* Stål, *T. intricata* Haldeman
- Rubus* sp. (Rosaceae) *Acalymma vittatum* (Fabricius), *Altica corni* Woods, *A. foliaceae* LeConte, *Baliosus nervosus* (Panzer), *Bassaricus formosus* (Melsheimer), *B. lituratus* (Fabricius), *B. mammifer* (Newman), *Brachypnoea margaretae* (Schultz), *B. puncticollis* (Say), *B. tristis* (Olivier), *Bromius obscurus* (Linnaeus), *Calligrapha bidenticola* Brown, *Capraita circumdata* (Randall), *Chaetocnema concinna* (Marshall), *C. confinis* Crotch, *Chelymorpha cassidea* (Fabricius), *Colaspis favosa* Say, *Crepidodera nana* (Say), *Cryptocephalus binominis* Newman, *C. castaneus* LeConte, *C. implacidus* White, *C. notatus* Fabricius, *C. quadruplex* Newman, *C. sanguinicollis* Suffrian, *C. venustus* Fabricius, *Diabrotica undecimpunctata* Mannerheim, *D. virgifera* LeConte, *Diachus auratus* (Fabricius), *Epitrix cucumeris* (Harris), *E. subcrinita* (LeConte), *Eusattodera thoracica* (Melsheimer), *Exema canadensis* Pierce, *E. gibber* (Fabricius), *Leptinotarsa decemlineata* (Say), *Longitarsus ganglbaueri* Heikertinger, *L. luridus* (Scopoli), *Neolema cordata* White, *Odontota dorsalis* (Thunberg), *O. notata* (Olivier), *O. scapularis* (Olivier), *Oulema sayi* (Crotch), *Pachybrachis nigricornis* (Say), *P. peccans* Suffrian, *P. relictus* Fall, *Paria fragariae* Wilcox, *P. sellata* (Horn), *Phyllotreta undulata* (Kutschera), *P. zimmermanni* (Crotch), *Plateumaris balli* Askevold, *Scelolyperus meracus* (Say), *Spintherophyta globosa* (Olivier), *Systema frontalis* (Fabricius), *Tricholochmaea cavicollis* (LeConte), *T. decora* (Say), *Trirhabda virgata* LeConte, *Tymnes tricolor* (Fabricius), *Xanthonia villosula* (Melsheimer)
- Rudbeckia hirta* L. (Asteraceae) *Cryptocephalus venustus* Fabricius, *Diabrotica cristata* (Harris), *D. undecimpunctata* Mannerheim, *Systema hudsonias* (Forster)
- Rudbeckia laciniata* L. (Asteraceae) *Diabrotica cristata* (Harris), *Sumitrosis inaequalis* (Weber)
- Rudbeckia missouriensis* Englem. ex C. L. Boynt. & Beadle (Asteraceae) *Cryptocephalus venustus* Fabricius, *Microrhopala excavata* (Olivier), *Paria thoracica* (Melsheimer)
- Rudbeckia subtomentosa* Pursh (Asteraceae) *Diabrotica undecimpunctata* Mannerheim
- Rudbeckia triloba* L. (Asteraceae) *Brachypnoea chypealis* (Horn), *Luperaltica senilis* (Say), *Sumitrosis inaequalis* (Weber)
- Rudbeckia* sp. (Asteraceae) *Brachypnoea convexa* (Say), *Graphops simplex* LeConte, *Luperaltica nigripalpis* (LeConte), *Microrhopala excavata* (Olivier), *Paria thoracica* (Melsheimer)
- Ruellia caroliniensis* (Walt.) Steud. (Acanthaceae) *Pseudodibolia opima* (LeConte)
- Rumex acetosa* L. (Polygonaceae) *Chaetocnema concinna* (Marshall), *Gastrophysa polygoni* (Linnaeus), *Mantura chrysanthemi* (Koch), *Phyllotreta striolata* (Fabricius)

Leaf Beetles Listed by Plants

- Rumex acetosella* L. (Polygonaceae) *Chaetocnema concinna* (Marsham), *Epitrix fasciata* Blatchley, *Gastrophysa cyanea* Melsheimer, *G. polygoni* (Linnaeus), *Mantura chrysanthemi* (Koch), *M. floridana* Crotch, *Pachybrachis peccans* Suffrian, *Psylliodes elegans* Horn, *P. punctulatus* Melsheimer, *Systema blanda* Melsheimer, *S. frontalis* (Fabricius), *S. hudsonias* (Forster)
- Rumex altissimus* Wood (Polygonaceae) *Gastrophysa cyanea* Melsheimer, *Mantura floridana* Crotch
- Rumex arifolius* Linn. f. (Polygonaceae) *Chaetocnema concinna* (Marsham), *Gastrophysa polygoni* (Linnaeus)
- Rumex britannica* L. (Polygonaceae) *Gastrophysa cyanea* Melsheimer
- Rumex californicus* Rech. f. (Polygonaceae) *Gastrophysa cyanea* Melsheimer
- Rumex crispus* L. (Polygonaceae) *Acalymma vittatum* (Fabricius), *Chaetocnema concinna* (Marsham), *Colaspis brunnea* (Fabricius), *Galerucella nymphaeae* (Linnaeus), *Gastrophysa cyanea* Melsheimer, *G. dissimilis* (Say), *G. polygoni* (Linnaeus), *Glyptoscels parvula* Blaisdell, *Hippuriphila canadensis* Brown, *Mantura floridana* Crotch, *Pachybrachis abdominalis* (Say)
- Rumex hydrolapathum* Huds. (Polygonaceae) *Chaetocnema concinna* (Marsham), *Galerucella nymphaeae* (Linnaeus)
- Rumex hymenosepalus* J. Torr. (Polygonaceae) *Gastrophysa cyanea* Melsheimer, *G. formosa* (Say), *Mantura floridana* Crotch
- Rumex maritimus* L. (Polygonaceae) *Chaetocnema concinna* (Marsham)
- Rumex obtusifolius* L. (Polygonaceae) *Chaetocnema concinna* (Marsham), *Gastrophysa cyanea* Melsheimer, *G. polygoni* (Linnaeus), *Hippuriphila canadensis* Brown, *Mantura floridana* Crotch, *Psylliodes punctulatus* Melsheimer
- Rumex patientia* L. (Polygonaceae) *Gastrophysa cyanea* Melsheimer
- Rumex pulcher* L. (Polygonaceae) *Gastrophysa cyanea* Melsheimer, *Microrhetha ochroloma* Stål
- Rumex salicifolius* Weinm. (Polygonaceae) *Gastrophysa cyanea* Melsheimer
- Rumex sylvestris* (Lam.) Wallr. (Polygonaceae) *Chaetocnema concinna* (Marsham)
- Rumex venosus* Pursh (Polygonaceae) *Gastrophysa cyanea* Melsheimer, *G. formosa* (Say)
- Rumex verticillatus* L. (Polygonaceae) *Disonycha caroliniana* (Fabricius), *Gastrophysa cyanea* Melsheimer, *G. dissimilis* (Say), *Neogalerucella californiensis* (Linnaeus), *Paria scutellaris* (Notman)
- Rumex* sp. (Polygonaceae) *Altica ambiens* LeConte, *A. corni* Woods, *A. litigata* Fall, *Brachypnoea puncticollis* (Say), *Charidotella sexpunctata* (Fabricius), *Colaspis louisianae* Blake, *Coleothorpa dominicana* (Fabricius), *Cryptocephalus quadruplex* Newman, *Diabrotica undecimpunctata* Mannerheim, *D. virgifera* LeConte, *Disonycha pensylvanica* (Illiger), *Epitrix cucumeris* (Harris), *Lema daturaphila* Kogan & Goeden, *Neochlamisus gibbosus* (Fabricius), *Pachybrachis pawnee* Fall, *Plateumaris pusilla* (Say), *Prasocuris vittata* (Olivier), *Rhabdopterus picipes* (Olivier), *Typophorus nigrinus* (Fabricius)
- Rush (see *Juncus*)
- Russet apple (see *Malus sylvestris* P. Mill.)
- Russian poplar (see *Populus balsamifera* L.)
- Russian thistle (see *Salsola*)
- Rutabaga (see *Brassica napus* L.)
- Rye (see *Elymus*, *Secale*)
- Ryegrass (see *Lolium*)
- Sabal etonia* Swingle ex Nash (Arecaceae) *Hemisphaerota cyanea* (Say)
- Sabal mexicana* Mart. (Arecaceae) *Hemisphaerota cyanea* (Say)
- Sabal minor* (Jacq.) Pers. (Arecaceae) *Hemisphaerota cyanea* (Say)
- Sabal palmetto* (Walt.) Lodd. ex Schult. & Schult. f. (Arecaceae) *Hemisphaerota cyanea* (Say), *Kuschelina miniata* (Fabricius), *Phyllotreta striolata* (Fabricius)
- Sabal* sp. (Arecaceae) *Brucita marmorata* (Jacoby)
- Saccharum officinarum* L. (Poaceae) *Cerotoma ruficornis* (Olivier), *Chaetocnema denticulata* (Illiger), *C. ectypa* Horn, *C. obesula* LeConte, *C. pulicaria* Melsheimer, *Chelymorpha cribraria* (Fabricius), *Colaspis crinicornis* Schaeffer, *Cryptocephalus bispinus* Suffrian, *C. nigrocinctus* Suffrian, *Deloyala guttata* (Olivier), *Diabrotica balteata* LeConte, *D. undecimpunctata* Mannerheim, *Disonycha caroliniana* (Fabricius), *D. glabrata* (Fabricius), *Epitrix cucumeris* (Harris), *E. fasciata* Blatchley, *Metachroma floridanum* Crotch, *Myochrous cyphus* Blake, *M. denticollis* (Say), *Omophoita cyanipennis* (Fabricius), *Oulema sayi* (Crotch), *Phaedon viridis* Melsheimer, *Systema frontalis* (Fabricius), *Typophorus nigrinus* (Fabricius)

<i>Saccharum</i> sp. (Poaceae)	<i>Physonota alutacea</i> Boheman
Safflower	(see <i>Carthamus tinctorius</i> L.)
Sage	(see <i>Artemisia</i> , <i>Salvia</i>)
Sagebrush	(see <i>Artemisia</i>)
<i>Sagina</i> sp. (Caryophyllaceae)	<i>Cassida flaveola</i> Thunberg
<i>Sagittaria arifolia</i> Nutt. ex J. G. Sm. (Alismataceae)	<i>Donacia caerulea</i> Olivier
<i>Sagittaria engelmanniana</i> J. G. Sm. (Alismataceae)	<i>Donacia caerulea</i> Olivier
<i>Sagittaria latifolia</i> Willd. (Alismataceae)	<i>Diabrotica undecimpunctata</i> Mannerheim, <i>Disonycha pensylvanica</i> (Illiger), <i>Donacia caerulea</i> Olivier, <i>D. hirticollis</i> Kirby, <i>D. parvidens</i> Schaeffer, <i>D. subtilis</i> Kunze, <i>D. tuberculata</i> Lacordaire, <i>Plateumaris rufa</i> (Say)
<i>Sagittaria rigida</i> Pursh (Alismataceae)	<i>Donacia caerulea</i> Olivier
<i>Sagittaria sagittifolia</i> L. (Alismataceae)	<i>Galerucella nymphaeae</i> (Linnaeus)
<i>Sagittaria variabilis</i> Engelm. (Alismataceae)	(see <i>Sagittaria latifolia</i> Willd.)
<i>Sagittaria</i> sp. (Alismataceae)	<i>Calligrapha californica</i> Linell, <i>Diabrotica virgifera</i> LeConte, <i>Donacia biimpressa</i> Melsheimer, <i>D. magnifica</i> LeConte, <i>D. rufescens</i> Lacordaire, <i>D. rugosa</i> LeConte, <i>Neohaemonia nigricornis</i> (Kirby), <i>Phaedon armoraciae</i> (Linnaeus), <i>Plateumaris flavipes</i> (Kirby), <i>P. metallica</i> (Ahrens), <i>P. shoemakeri</i> (Schaeffer)
Saint Andrew's cross	(see <i>Hypericum hypericoides</i> (L.) Crantz)
Saint John's wort	(see <i>Hypericum</i>)
<i>Salicornia europaea</i> L. (Chenopodiaceae)	<i>Erynephala brighti</i> Blake
<i>Salicornia</i> sp. (Chenopodiaceae)	<i>Erynephala maritima</i> (LeConte), <i>E. morosa</i> (LeConte), <i>Monoxia apicalis</i> Blake, <i>Metachroma texanum</i> Schaeffer, <i>Myochrous longulus</i> LeConte, <i>Psylliodes credens</i> Fall, <i>Trirhabda flavolimbata</i> (Mannerheim)
<i>Salix alba</i> L. (Salicaceae)	<i>Agelastica alni</i> (Linnaeus), <i>Calligrapha multipunctata</i> (Say), <i>Chaetocnema concinna</i> (Marsham), <i>Chrysomela scripta</i> Fabricius, <i>Crepidodera decora</i> Parry, <i>C. heikertingeri</i> (Lazorko), <i>C. solita</i> Parry, <i>Longitarsus ganglbaueri</i> Heikertinger, <i>Oulema melanopus</i> (Linnaeus), <i>Phyllotreta undulata</i> (Kutschera), <i>Plagiodera versicolora</i> (Laicharting), <i>Psylliodes picinus</i> (Marsham)
<i>Salix amygdaloides</i> Anderss. (Salicaceae)	<i>Altica bimarginata</i> Say, <i>A. subplicata</i> LeConte, <i>Calligrapha multipunctata</i> (Say), <i>Chrysomela knabi</i> Brown, <i>C. lineatopunctata</i> Forster, <i>C. scripta</i> Fabricius, <i>Glyptoscelis squamulata</i> Crotch, <i>Orsodacne atra</i> (Ahrens), <i>Pachybrachis abdominalis</i> (Say), <i>P. peccans</i> Suffrian, <i>P. tridens</i> (Melsheimer)
<i>Salix arctica</i> Pall. (Salicaceae)	<i>Chrysomela blaisdelli</i> (Van Dyke)
<i>Salix arctophila</i> Cockerell ex A. Heller (Salicaceae)	<i>Chrysomela falsa</i> Brown
<i>Salix argophylla</i> Nutt. (Salicaceae)	<i>Altica bimarginata</i> Say
<i>Salix babylonica</i> L. (Salicaceae)	<i>Altica prasina</i> LeConte, <i>Brachypnoea puncticollis</i> (Say), <i>Calligrapha multipunctata</i> (Say), <i>Chrysomela aeneicollis</i> (Schaeffer), <i>C. interrupta</i> Fabricius, <i>C. knabi</i> Brown, <i>C. schaefferi</i> Brown, <i>C. scripta</i> Fabricius, <i>Plagiodera californica</i> (Rogers), <i>P. versicolora</i> (Laicharting)
<i>Salix bebbiana</i> Sarg. (Salicaceae)	<i>Altica subplicata</i> LeConte, <i>Anomoea latilavia</i> (Forster), <i>Calligrapha multipunctata</i> (Say), <i>C. suturella</i> Schaeffer, <i>Crepidodera decora</i> Parry, <i>C. heikertingeri</i> (Lazorko), <i>Cryptocephalus quadruplex</i> Newman, <i>Disonycha alternata</i> (Illiger), <i>D. latifrons</i> Schaeffer, <i>Gonioctena notmani</i> (Schaeffer), <i>Neochlamisus bebbianae</i> (Brown), <i>Tricholochmaea decora</i> (Say), <i>T. perplexa</i> (Fall)
<i>Salix boothi</i> Dorn. (Salicaceae)	<i>Chrysomela aeneicollis</i> (Schaeffer)
<i>Salix candida</i> Fluegge ex Willd. (Salicaceae)	<i>Lexiphanes saponatus</i> (Fabricius)
<i>Salix caprea</i> L. (Salicaceae)	<i>Agelastica alni</i> (Linnaeus), <i>Chrysomela scripta</i> Fabricius, <i>Plagiodera versicolora</i> (Laicharting)
<i>Salix caroliniana</i> Michx. (Salicaceae)	<i>Altica subplicata</i> LeConte, <i>Chrysomela scripta</i> Fabricius, <i>Plagiodera versicolora</i> (Laicharting), <i>Tricholochmaea tuberculata</i> (Say)
<i>Salix chilensis</i> Molina (Salicaceae)	<i>Cryptocephalus nigrocinctus</i> Suffrian
<i>Salix cinerea</i> L. (Salicaceae)	<i>Phaedon laevigatus</i> (Duftschmid), <i>Plagiodera versicolora</i> (Laicharting)
<i>Salix cordata</i> Michx. (Salicaceae)	<i>Altica bimarginata</i> Say, <i>A. subplicata</i> LeConte, <i>A. ulmi</i> Woods, <i>Calligrapha multipunctata</i> (Say), <i>Chrysomela knabi</i> Brown, <i>C. laurentia</i> Brown, <i>Crepidodera sculpturata</i> (Lazorko), <i>C. solita</i> Parry, <i>Orsodacne atra</i> (Ahrens), <i>Systema frontalis</i> (Fabricius), <i>Tricholochmaea decora</i> (Say), <i>T. tuberculata</i> (Say)
<i>Salix daphnoides</i> Vill. (Salicaceae)	<i>Plagiodera versicolora</i> (Laicharting)
<i>Salix dasyclados</i> Wimm. (Salicaceae)	<i>Plagiodera versicolora</i> (Laicharting)

Leaf Beetles Listed by Plants

- Salix discolor* Muhl. (Salicaceae) *Altica carinata* Germar, *A. ignita* Illiger, *Anomoea laticlavata* (Forster), *Bassareus formosus* (Melsheimer), *B. lituratus* (Fabricius), *Brachypnoea convexa* (Say), *B. puncticollis* (Say), *B. tristis* (Olivier), *Calligrapha multipunctata* (Say), *Capraita thymoides* (Crotch), *Cerotoma trifurcata* (Forster), *Chaetocnema confinis* Crotch, *Chrysolina auripennis* (Say), *Chrysomela falsa* Brown, *C. scripta* Fabricius, *Colaspis brunnea* (Fabricius), *C. favosa* Say, *Crepidodera decora* Parry, *C. heikertingeri* (Lazorko), *C. nana* (Say), *C. populivora* Parry, *C. solita* Parry, *Cryptocephalus mutabilis* Melsheimer, *C. striatulus* LeConte, *C. venustus* Fabricius, *Diabrotica cristata* (Harris), *Diachus auratus* (Fabricius), *Dibolia borealis* Chevrolat, *Disonycha collata* (Fabricius), *D. procera* Casey, *D. triangularis* (Say), *Epitrix cucumeris* (Harris), *Longitarsus testaceus* (Melsheimer), *Neochlamisus bebbianae* (Brown), *Neogalerucella californiensis* (Linnaeus), *Pachybrachis atomarius* (Melsheimer), *Paria quadrinotata* (Say), *P. sexnotata* (Say), *Phratora purpurea* Brown, *Phyllobrotica circumdata* (Say), *P. decorata* (Say), *Plagioderma versicolora* (Laicharting), *Rhabdopterus praetextus* (Say), *Tricholochmaea decora* (Say), *Xanthonia decemnotata* (Say), *X. villosula* (Melsheimer), *Zeugophora consanguinea* Crotch
- Salix drummondiana* Barratt ex Hook. (Salicaceae) *Chrysomela aeneicollis* (Schaeffer)
- Salix elaeagnos* Scop. (Salicaceae) *Plagioderma versicolora* (Laicharting)
- Salix eriocephala* Michx. (Salicaceae) *Chrysomela scripta* Fabricius, *Tricholochmaea decora* (Say)
- Salix exigua* Nutt. (Salicaceae) *Altica bimarginata* Say, *A. prasina* LeConte, *A. subplicata* LeConte, *Anomoea flavokansiensis* Moldenke, *Brachypnoea tristis* (Olivier), *Calligrapha multipunctata* (Say), *C. verrucosa* (Suffrian), *Chrysomela knabi* Brown, *C. laurentia* Brown, *C. scripta* Fabricius, *C. texana* (Schaeffer), *Crepidodera luminosa* Parry, *C. nana* (Say), *C. sculpturata* (Lazorko), *C. solita* Parry, *Cryptocephalus duryi* Schaeffer, *C. leucomelas* Suffrian, *Disonycha alternata* (Illiger), *D. caroliniana* (Fabricius), *D. pluriligata* (LeConte), *Glyptoscelis alternata* Crotch, *Myochrous magnus* Blake, *Neochlamisus insularis* (Schaeffer), *Neogalerucella californiensis* (Linnaeus), *Pachybrachis abdominalis* (Say), *P. bivittatus* (Say), *P. peccans* Suffrian, *Paria quadriguttata* LeConte, *Plagioderma versicolora* (Laicharting), *Tricholochmaea punctipennis* (Mannerheim), *T. tuberculata* (Say)
- Salix fluviatilis* Nutt. (Salicaceae) *Disonycha alternata* (Illiger)
- Salix fragilis* L. (Salicaceae) *Chrysomela knabi* Brown, *C. laurentia* Brown, *C. mainensis* Bechyné, *C. walshi* Brown, *Crepidodera browni* Parry, *C. decora* Parry, *C. heikertingeri* (Lazorko), *C. nana* (Say), *C. populivora* Parry, *C. solita* Parry, *Disonycha alternata* (Illiger), *Phaedon laevigatus* (Duftschmid), *Phratora purpurea* Brown, *Plagioderma versicolora* (Laicharting)
- Salix geyeriana* Anderss. (Salicaceae) *Chrysomela aeneicollis* (Schaeffer)
- Salix glauca* L. (Salicaceae) *Phratora frosti* Brown, *P. hudsonia* Brown
- Salix gracilis* Anderss. (Salicaceae) *Tricholochmaea decora* (Say)
- Salix hookeriana* Barratt (Salicaceae) *Calligrapha multipunctata* (Say)
- Salix humboldtiana* Willd. (Salicaceae) (see *Salix chilensis* Molina)
- Salix humilis* Marsh. (Salicaceae) *Brachypnoea puncticollis* (Say), *B. tristis* (Olivier), *Calligrapha scalaris* (LeConte), *Chrysomela knabi* Brown, *C. lineatopunctata* Forster, *C. scripta* Fabricius, *Crepidodera decora* Parry, *C. nana* (Say), *Cryptocephalus leucomelas* Suffrian, *Disonycha alternata* (Illiger), *Neochlamisus bebbianae* (Brown), *Orsodacne atra* (Ahrens)
- Salix incana* Michx. (Salicaceae) *Crepidodera nana* (Say)
- Salix integra* Thunb. (Salicaceae) *Plagioderma versicolora* (Laicharting)
- Salix interior* Rowlee (Salicaceae) (see *Salix exigua* Nutt.)
- Salix lanata* L. (Salicaceae) *Chrysomela blaisdelli* (Van Dyke), *Phratora frosti* Brown, *P. hudsonia* Brown
- Salix lapponum* L. (Salicaceae) *Phratora frosti* Brown, *P. hudsonia* Brown
- Salix lasiolepis* Benth. (Salicaceae) *Altica prasina* LeConte, *Chrysomela aeneicollis* (Schaeffer), *C. confluens* Rogers, *C. schaefferi* Brown, *C. scripta* Fabricius, *Crepidodera aereola* (LeConte), *Plagioderma californica* (Rogers), *P. versicolora* (Laicharting), *Tricholochmaea punctipennis* (Mannerheim)
- Salix lemmonii* Bebb (Salicaceae) *Chrysomela aeneicollis* (Schaeffer)
- Salix longifolia* Lam. (Salicaceae) *Acalymma vittatum* (Fabricius), *Calligrapha multipunctata* (Say), *Disonycha alternata* (Illiger), *Phratora purpurea* Brown
- Salix lucida* Muhl. (Salicaceae) *Altica subplicata* LeConte, *Calligrapha multipunctata* (Say), *Chrysomela aeneicollis* (Schaeffer), *C. confluens* Rogers, *C. laurentia* Brown, *C. schaefferi* Brown, *Crepidodera decora* Parry, *C. digna* Parry, *C. heikertingeri* (Lazorko), *C. nana* (Say), *C. populivora* Parry, *Plagioderma californica* (Rogers), *P. versicolora* (Laicharting), *Tricholochmaea decora* (Say)

<i>Salix lutea</i> Nutt. (Salicaceae)	<i>Chrysomela aeneicollis</i> (Schaeffer)
<i>Salix matsudana</i> Koidz. (Salicaceae)	(see <i>Salix babylonica</i> L.)
<i>Salix melanopsis</i> Nutt. (Salicaceae)	(see <i>Salix exigua</i> Nutt.)
<i>Salix miyabeana</i> Seemen (Salicaceae)	<i>Plagiodera versicolora</i> (Laicharting)
<i>Salix myricoides</i> Muhl. (Salicaceae)	<i>Altica subplicata</i> LeConte
<i>Salix nigra</i> Marsh. (Salicaceae)	<i>Acalymma vittatum</i> (Fabricius), <i>Altica bimarginata</i> Say, <i>A. ulmi</i> Woods, <i>Bassareus clathratus</i> (Melsheimer), <i>Brachypnoea puncticollis</i> (Say), <i>Chaetocnema texana</i> Crotch, <i>Chrysomela knabi</i> Brown, <i>C. scripta</i> Fabricius, <i>C. texana</i> (Schaeffer), <i>Crepidodera bella</i> Parry, <i>C. browni</i> Parry, <i>C. longula</i> Horn, <i>C. nana</i> (Say), <i>C. solita</i> Parry, <i>Cryptocephalus cribripennis</i> LeConte, <i>C. leucomelas</i> Suffrian, <i>Diabrotica virgifera</i> LeConte, <i>Disonycha pluriligata</i> (LeConte), <i>Myochrous magnus</i> Blake, <i>Paria opacicollis</i> LeConte, <i>P. quadriguttata</i> LeConte, <i>Phratora purpurea</i> Brown, <i>Plagiodera arizonae</i> Crotch, <i>P. versicolora</i> (Laicharting), <i>Tricholochmaea decora</i> (Say)
<i>Salix nigricans</i> Smith (Salicaceae)	<i>Crepidodera nana</i> (Say), <i>Phaedon laevigatus</i> (Duftschmid), <i>Plagiodera versicolora</i> (Laicharting)
<i>Salix oleaefolia</i> Vill. (Salicaceae)	<i>Crepidodera nana</i> (Say)
<i>Salix orestera</i> Schneid. (Salicaceae)	<i>Chrysomela aeneicollis</i> (Schaeffer), <i>C. schaefferi</i> Brown
<i>Salix patula</i> Kern. ex Anderss. (Salicaceae)	(see <i>Salix oleaefolia</i> Vill.)
<i>Salix patula</i> Schleich. ex Ser. (Salicaceae)	(see <i>Salix nigricans</i> Smith)
<i>Salix patula</i> Ser. (Salicaceae)	(see <i>Salix incana</i> Michx.)
<i>Salix pentandra</i> L. (Salicaceae)	<i>Calligrapha multipunctata</i> (Say), <i>Chrysomela scripta</i> Fabricius, <i>Plagiodera versicolora</i> (Laicharting)
<i>Salix petiolaris</i> J. E. Sm. (Salicaceae)	<i>Altica carinata</i> Germar, <i>A. ignita</i> Illiger, <i>A. ulmi</i> Woods, <i>Bassareus formosus</i> (Melsheimer), <i>B. lituratus</i> (Fabricius), <i>Brachypnoea convexa</i> (Say), <i>B. puncticollis</i> (Say), <i>Calligrapha multipunctata</i> (Say), <i>Capraita thymoides</i> (Crotch), <i>Cerotoma trifurcata</i> (Forster), <i>Chaetocnema confinis</i> Crotch, <i>Chrysolina auripennis</i> (Say), <i>Chrysomela laurentia</i> Brown, <i>C. scripta</i> Fabricius, <i>Colaspis brunnea</i> (Fabricius), <i>C. favosa</i> Say, <i>Crepidodera decora</i> Parry, <i>C. digna</i> Parry, <i>C. heikertingeri</i> (Lazorko), <i>C. nana</i> (Say), <i>C. populivora</i> Parry, <i>C. sculpturata</i> (Lazorko), <i>C. solita</i> Parry, <i>Cryptocephalus mutabilis</i> Melsheimer, <i>C. striatulus</i> LeConte, <i>C. venustus</i> Fabricius, <i>Diabrotica cristata</i> (Harris), <i>Diachus auratus</i> (Fabricius), <i>Dibolia borealis</i> Chevrolat, <i>Disonycha collata</i> (Fabricius), <i>D. procera</i> Casey, <i>D. triangularis</i> (Say), <i>Epitrix cucumeris</i> (Harris), <i>Longitarsus testaceus</i> (Melsheimer), <i>Pachybrachis atomarius</i> (Melsheimer), <i>Paria quadrinotata</i> (Say), <i>P. sexnotata</i> (Say), <i>Phyllobrotica circumdata</i> (Say), <i>P. decorata</i> (Say), <i>Rhabdopterus praetextus</i> (Say), <i>Tricholochmaea decora</i> (Say), <i>Xanthonia decemnotata</i> (Say), <i>X. villosula</i> (Melsheimer), <i>Zeugophora consanguinea</i> Crotch
<i>Salix phylicifolia</i> L. (Salicaceae)	<i>Plagiodera versicolora</i> (Laicharting)
<i>Salix polaris</i> Wahlenb. (Salicaceae)	<i>Chrysolina subsulcata</i> (Mannerheim), <i>Chrysomela blaisdelli</i> (Van Dyke)
<i>Salix pulchra</i> Cham. (Salicaceae)	<i>Chrysomela blaisdelli</i> (Van Dyke), <i>Phratora frosti</i> Brown, <i>P. hudsonia</i> Brown
<i>Salix purpurea</i> L. (Salicaceae)	<i>Crepidodera nana</i> (Say), <i>Galerucella nymphaeae</i> (Linnaeus), <i>Plagiodera versicolora</i> (Laicharting)
<i>Salix pyrifolia</i> Anderss. (Salicaceae)	<i>Crepidodera digna</i> Parry
<i>Salix repens</i> L. (Salicaceae)	<i>Crepidodera nana</i> (Say)
<i>Salix reptans</i> Rupr. (Salicaceae)	<i>Chrysomela blaisdelli</i> (Van Dyke)
<i>Salix rostrata</i> Richards. (Salicaceae)	<i>Altica bimarginata</i> Say, <i>A. ulmi</i> Woods, <i>Systema frontalis</i> (Fabricius), <i>Tricholochmaea decora</i> (Say)
<i>Salix sachalinensis</i> Fr. Schm. (Salicaceae)	<i>Plagiodera versicolora</i> (Laicharting)
<i>Salix scouleriana</i> Barratt ex Hook. (Salicaceae)	<i>Altica prasina</i> LeConte, <i>Chrysomela confluens</i> Rogers, <i>C. schaefferi</i> Brown, <i>Plagiodera californica</i> (Rogers)
<i>Salix sericea</i> Marsh. (Salicaceae)	<i>Calligrapha multipunctata</i> (Say), <i>Chrysomela knabi</i> Brown, <i>Crepidodera heikertingeri</i> (Lazorko), <i>C. nana</i> (Say)
<i>Salix sessilifolia</i> Nutt. (Salicaceae)	<i>Altica ambiens</i> LeConte
<i>Salix sitchensis</i> Sanson ex Bong. (Salicaceae)	<i>Chrysomela aeneicollis</i> (Schaeffer), <i>C. confluens</i> Rogers
<i>Salix x smithiana</i> Willd. (Salicaceae)	<i>Plagiodera versicolora</i> (Laicharting)
<i>Salix taxifolia</i> H. B. K. (Salicaceae)	<i>Malacorhinus knullorum</i> Wilcox
<i>Salix viminalis</i> L. (Salicaceae)	<i>Chrysomela lineatopunctata</i> Forster, <i>C. scripta</i> Fabricius, <i>Galerucella nymphaeae</i> (Linnaeus)

Leaf Beetles Listed by Plants

- Salix* sp. (Salicaceae) *Altica chalybea* Illiger, *A. corni* Woods, *A. cuprascens* Blatchley, *A. torquata* LeConte, *Anomoea rufifrons* (Lacordaire), *Asphaera lustrans* (Crotch), *Baliosus nervosus* (Panzer), *Bassaricus mammifer* (Newman), *Brachypnoea margaretae* (Schultz), *Bromius obscurus* (Linnaeus), *Calligrapha californica* Linell, *C. multiguttata* Stål, *C. philadelphica* (Linnaeus), *C. spiraeae* (Say), *Capraita subvittata* (Horn), *Chaetocnema difficilis* White, *C. ectypa* Horn, *C. opacula* LeConte, *C. opulenta* Horn, *C. subviridis* LeConte, *Chrysolina hudsonica* Brown, *C. schaefferi* Brown, *Chrysomela crotchii* Brown, *C. semota* Brown, *C. sonora* Brown, *Colaspis hesperia* Blake, *Crepidodera opulenta* (LeConte), *C. spenceri* (Lazorko), *Cryptocephalus castaneus* LeConte, *C. defectus* LeConte, *C. guttulatus* Olivier, *C. luteolus* Newman, *C. nanus* Fabricius, *C. notatus* Fabricius, *C. pumilus* Haldeman, *C. sanguinicollis* Suffrian, *C. snowi* Schaeffer, *Derospidea brevicollis* (LeConte), *Diabrotica longicornis* (Say), *D. undecimpunctata* Mannerheim, *Diachus catarius* (Suffrian), *D. erasus* LeConte, *Disonycha glabrata* (Fabricius), *D. latiovittata* Hatch, *D. limbicollis* (LeConte), *D. pensylvanica* (Illiger), *D. punctigera* (LeConte), *D. schaefferi* Blake, *D. tenuicornis* Horn, *D. uniguttata* (Say), *D. xanthomelas* (Dalman), *Distigmoptera apicalis* Blake, *D. pilosa* (Illiger), *Epitrix hirtipennis* (Melsheimer), *E. subcrinita* (LeConte), *Erynephala puncticollis* (Say), *Euphrytus snowi* Schaeffer, *Eusattodera thoracica* (Melsheimer), *Exema canadensis* Pierce, *E. dispar* Lacordaire, *E. gibber* (Fabricius), *Fidia longipes* (Melsheimer), *Gastrophysa cyanea* Melsheimer, *G. polygoni* (Linnaeus), *Glyptoscelis parvula* Blaisdell, *Gonioctena americana* (Schaeffer), *G. nivosa* (Mannerheim), *G. occidentalis* (Brown), *Jonthonota nigripes* (Olivier), *Kuschelina concinna* (Fabricius), *Leptinotarsa collinsi* Wilcox, *Metachroma angustulum* Crotch, *M. interruptum* (Say), *Monoxia consputa* (LeConte), *Neochlamisus gibbosus* (Fabricius), *Ophraella americana* (Fabricius), *O. sexvittata* (LeConte), *Pachybrachis arizonensis* Bowditch, *P. brunneus* Bowditch, *P. californicus* Fall, *P. circumcinctus* Crotch, *P. diversus* Fall, *P. donneri* Crotch, *P. hepaticus* (Melsheimer), *P. integratus* Fall, *P. liebecki* Fall, *P. livens* LeConte, *P. lustrans* LeConte, *P. melanostictus* Suffrian, *P. m-nigrum* (Melsheimer), *P. morosus* Haldeman, *P. nigricornis* (Say), *P. nubigenus* Fall, *P. nunenmacheri* Fall, *P. obsoletus* Suffrian, *P. othonus* (Say), *P. punctatus* Bowditch, *P. signatiformis* Mannerheim, *P. spumarius* Suffrian, *P. thoracicus* Jacoby, *Paria aterrita* (Olivier), *P. canella* (Fabricius), *P. scutellaris* (Notman), *Phaedon armoraciae* (Linnaeus), *P. oviformis* (LeConte), *Phratora americana* (Schaeffer), *P. californica* Brown, *P. interstitialis* Mannerheim, *Phyllotreta albionica* (LeConte), *P. conjuncta* Gentner, *P. striolata* (Fabricius), *Plateumaris nitida* (Germar), *P. pusilla* (Say), *Pseudolampsis guttata* (LeConte), *Rhabdopterus bottimeri* Barber, *Scelolyperus liriophilus* Wilcox, *S. schwarzii* Horn, *S. varipes* (LeConte), *Sermylassa halensis* (Linnaeus), *Spintherophyta violaceipennis* (Horn), *Stenospa collaris* Baly, *Sumitrosis rosea* (Weber), *Syneta albida* LeConte, *S. hamata* Horn, *S. simplex* LeConte, *Synetocephalus bivittatus* (LeConte), *Systema blanda* Melsheimer, *Tricholochmaea spiraeae* (Fall), *T. vaccinii* (Fall), *Trirhabda bacharidis* (Weber), *T. canadensis* (Kirby), *Zeugophora abnormis* (LeConte), *Z. atra* Fall, *Z. californica* Crotch, *Z. puberula* Crotch, *Z. scutellaris* Suffrian, *Z. varians* Crotch, *Zygogramma disrupta* (Rogers)
- Salpichroa rhomboidea* (Gill. & Hook.) Miers (Solanaceae) *Lema daturaphila* Kogan & Goeden
- Salpiglossis* sp. (Solanaceae) *Leptinotarsa decemlineata* (Say)
- Salsola kali* L. (Chenopodiaceae) *Chaetocnema densa* White, *C. ectypa* Horn, *Diabrotica balteata* LeConte, *D. longicornis* (Say), *D. undecimpunctata* Mannerheim, *Disonycha arizonae* Casey, *D. latifrons* Schaeffer, *Erynephala puncticollis* (Say), *Galeruca browni* Blake, *Glyptina cerina* (LeConte), *Graphops tenuis* Blake, *Metaparia opacicollis* (Horn), *Systema blanda* Melsheimer
- Salsola pestifer* A. Nelson (Chenopodiaceae) (see *Salsola kali* L.)
- Salsola tragus* L. (Chenopodiaceae) (see *Salsola kali* L.)
- Salsola vermiculata* L. (Chenopodiaceae) *Longitarsus succineus* (Foudras), *Phyllotreta cruciferae* (Goeze)
- Salsola* sp. (Chenopodiaceae) *Disonycha xanthomelas* (Dalman), *Erynephala maritima* (LeConte), *Psylliodes punctulatus* Melsheimer, *Zygogramma exclamationis* (Fabricius)
- Saltbush (see *Atriplex*)
- Saltcedar (see *Tamarix ramosissima* Ledeb.)
- Salt grass (see *Distichlis spicata* (L.) Greene)
- Saltwort (see *Salicornia*, *Salsola*)
- Salvia (see *Salvia*)
- Salvia albida* Jacq. (Lamiaceae) *Chlamisus quadrilobatus* (Schaeffer)
- Salvia arizonica* Gray (Lamiaceae) *Disonycha tenuicornis* Horn
- Salvia elegans* Müll. Agr. (Lamiaceae) *Zygogramma piceicollis* (Stål)
- Salvia hierosolymitana* Boiss. (Lamiaceae) *Longitarsus luridus* (Scopoli)
- Salvia lanceaefolia* Poir. (Lamiaceae) (see *Salvia lanceolata* Lam.)
- Salvia lanceolata* Lam. (Lamiaceae) *Systema blanda* Melsheimer

<i>Salvia leucophylla</i> E. L. Greene (Lamiaceae)	<i>Scelolyperus graptoderoides</i> (Crotch)
<i>Salvia nemorosa</i> L. (Lamiaceae)	<i>Longitarsus succineus</i> (Foudras)
<i>Salvia occidentalis</i> Sw. (Lamiaceae)	<i>Octotoma scabripennis</i> Guérin-Ménéville
<i>Salvia pratensis</i> L. (Lamiaceae)	<i>Longitarsus succineus</i> (Foudras)
<i>Salvia vinacea</i> Woot. & Standl. (Lamiaceae)	<i>Cryptocephalus simulans</i> Schaeffer, <i>Disonycha tenuicornis</i> Horn
<i>Salvia xalapensis</i> Benth. (Lamiaceae)	<i>Amphelasma cavum</i> (Say)
<i>Salvia</i> sp. (Lamiaceae)	<i>Altica oblitterata</i> LeConte, <i>Androlyperus maculatus</i> LeConte, <i>Chrysolina staphylaea</i> (Linnaeus), <i>Diabrotica longicornis</i> (Say), <i>D. undecimpunctata</i> Mannerheim, <i>Epitrix fasciata</i> Blatchley, <i>Glyptina texana</i> (Crotch), <i>Hemiglyptus basalis</i> (Crotch), <i>Lema daturaphila</i> Kogan & Goeden, <i>Leptinotarsa decemlineata</i> (Say), <i>Microrhopala vittata</i> (Fabricius), <i>Paria quadriguttata</i> LeConte, <i>Trirhabda flavolimbata</i> (Mannerheim)
<i>Salvinia hastata</i> Desv. (Salviniaceae)	<i>Pseudolampsis guttata</i> (LeConte)
<i>Sambucus caerulescens</i> Raf. (Caprifoliaceae)	<i>Orsodacne atra</i> (Ahrens)
<i>Sambucus canadensis</i> L. (Caprifoliaceae)	<i>Diabrotica undecimpunctata</i> Mannerheim, <i>Diachus auratus</i> (Fabricius), <i>Exema canadensis</i> Pierce, <i>Lexiphanes affinis</i> (Haldeman), <i>L. saponatus</i> (Fabricius), <i>L. seminulum</i> (Suffrian), <i>Systema hudsonias</i> (Forster)
<i>Sambucus glauca</i> Nutt. ex Torr. & Gray (Caprifoliaceae)	<i>Pachybrachis signatifrons</i> Mannerheim, <i>Scelolyperus torquatus</i> (LeConte)
<i>Sambucus</i> sp. (Caprifoliaceae)	<i>Altica prasina</i> LeConte, <i>Bassareus brun-nipes</i> (Olivier), <i>B. formosus</i> (Melsheimer), <i>Chrysomela scripta</i> Fabricius, <i>Disonycha alternata</i> (Illiger), <i>D. caroliniana</i> (Fabricius), <i>Epitrix cucumeris</i> (Harris), <i>Myochrous magnus</i> Blake, <i>Oulema sayi</i> (Crotch), <i>Scelolyperus liriophilus</i> Wilcox
Sandbur	(see <i>Cenchrus</i> , <i>Solanum rostratum</i> Dunal)
<i>Santolina chamaecyparissus</i> L. (Asteraceae)	<i>Longitarsus succineus</i> (Foudras)
<i>Sapindus drummondii</i> Hook. & Arn. (Sapindaceae)	<i>Capraita flavida</i> (Horn), <i>Cryptocephalus basalis</i> Suffrian, <i>C. guttulatus</i> Olivier, <i>Diachus auratus</i> (Fabricius)
<i>Sapindus saponaria</i> L. (Sapindaceae)	<i>Metrioidea varicornis</i> (LeConte)
<i>Sapium sebiferum</i> (L.) Roxb. (Euphorbiaceae)	<i>Charidotella sexpunctata</i> (Fabricius), <i>Cryptocephalus venustus</i> Fabricius
<i>Saponaria officinalis</i> L. (Caryophyllaceae)	<i>Cassida azurea</i> Fabricius, <i>Diabrotica longicornis</i> (Say)
<i>Saponaria vaccaria</i> L. (Caryophyllaceae)	(see <i>Vaccaria hispanica</i> (Mill.) Rauschert)
<i>Saracha jaltomata</i> Schl. (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say), <i>Zygo-gramma piceicollis</i> (Stål)
<i>Sarcobatus vermiculatus</i> (Hook.) J. Torr. (Chenopodiaceae)	<i>Altica foliaceae</i> LeConte, <i>Colaspidea smaragdula</i> (LeConte), <i>Cryptocephalus cerinus</i> White, <i>Neochlamisus scabripennis</i> (Schaeffer)
<i>Sarcostemma bilobum</i> Hook. & Arn. (Asclepiadaceae)	<i>Eumolpus robustus</i> (Horn)
<i>Sarcostemma cynanchoides</i> Decne. (Asclepiadaceae)	<i>Labidomera clivicollis</i> (Kirby)
<i>Sarcostemma glaucum</i> Kunth in H. B. K. (Asclepiadaceae)	<i>Eumolpus robustus</i> (Horn)
Sargent viburnum	(see <i>Viburnum opulus</i> L.)
<i>Sarracenia flava</i> L. (Sarraceniaceae)	<i>Acalymma vittatum</i> (Fabricius), <i>Baliosus nervosus</i> (Panzer), <i>Bassareus lituratus</i> (Fabricius), <i>Capraita circumdata</i> (Randall), <i>Cerotoma trifurcata</i> (Forster), <i>Chalepus bicolor</i> (Olivier), <i>Colaspis brumnea</i> (Fabricius), <i>Deloyala guttata</i> (Olivier), <i>Diabrotica undecimpunctata</i> Mannerheim, <i>Disonycha caroliniana</i> (Fabricius), <i>D. discoidea</i> (Fabricius), <i>D. leptolineata</i> Blatchley, <i>Kuschelina concinna</i> (Fabricius), <i>K. miniata</i> (Fabricius), <i>Neochlamisus gibbosus</i> (Fabricius), <i>Neolema sexpunctata</i> (Olivier), <i>Odontota dorsalis</i> (Thunberg), <i>O. scapularis</i> (Olivier), <i>Paria canella</i> (Fabricius), <i>Systema hudsonias</i> (Forster)
<i>Sarracenia purpurea</i> L. (Sarraceniaceae)	<i>Diabrotica undecimpunctata</i> Mannerheim, <i>Labidomera clivicollis</i> (Kirby), <i>Tricholochmaea vaccinii</i> (Fall)
<i>Sarracenia rubra</i> Walt. (Sarraceniaceae)	<i>Diabrotica undecimpunctata</i> Mannerheim
<i>Sarracenia</i> sp. (Sarraceniaceae)	<i>Rhabdopterus picipes</i> (Olivier)
Sarsaparilla	(see <i>Aralia</i> , <i>Smilax</i>)
Sassafras	(see <i>Sassafras albidum</i> (Nutt.) Nees)
<i>Sassafras albidum</i> (Nutt.) Nees (Lauraceae)	<i>Coleothorpa dominicana</i> (Fabricius), <i>Cryptocephalus notatus</i> Fabricius, <i>Lexiphanes seminulum</i> (Suffrian), <i>Rhabdopterus picipes</i> (Olivier)
Satsuma orange	(see <i>Citrus reticulata</i> Blanco)
<i>Satureja hortensis</i> L. (Lamiaceae)	<i>Longitarsus ferrugineus</i> (Foudras), <i>Systema blanda</i> Melsheimer

Leaf Beetles Listed by Plants

<i>Satureja rigida</i> Bartr. ex Benth. (Lamiaceae)	<i>Chrysolina inornata</i> (Rogers)
<i>Satureja</i> sp. (Lamiaceae)	<i>Longitarsus luridus</i> (Scopoli)
<i>Saussurea tanakae</i> F. & S. ex Maxim. (Asteraceae)	<i>Cassida rubiginosa</i> Müller
Sawgrass	(see <i>Cladium</i>)
Saw palmetto	(see <i>Serenoa repens</i> (Bartr.) Small)
<i>Scabiosa succisa</i> L. (Dipsacaceae)	<i>Longitarsus luridus</i> (Scopoli)
Scarlet oak	(see <i>Quercus coccinea</i> Münchh.)
<i>Schinus molle</i> L. (Anacardiaceae)	<i>Cryptocephalus trizonatus</i> Suffrian, <i>Zyogramma piceicollis</i> (Stål), <i>Z. signatipennis</i> (Stål)
<i>Schinus terebinthifolius</i> Raddi (Anacardiaceae)	<i>Blepharida rhois</i> (Forster), <i>Charidotella sexpunctata</i> (Fabricius)
<i>Schizachyrium scoparium</i> (Michx.) Nash (Poaceae)	<i>Anisostena nigrita</i> (Olivier), <i>A. texana</i> Schaeffer, <i>Chaetocnema confinis</i> Crotch, <i>Diabrotica cristata</i> (Harris), <i>Myochrous denticollis</i> (Say)
<i>Schizanthus pinnatus</i> Ruiz & Pav. (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Schizanthus wisetonensis</i> Hort. (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Schoenoplectus maritimus</i> (L.) Lye (Cyperaceae)	<i>Chaetocnema opulenta</i> Horn
<i>Schoenoplectus tabernaemontani</i> (C. C. Gmel.) Palla (Cyperaceae)	<i>Donacia pubescens</i> LeConte
<i>Schrankia uncinata</i> Willd. (Fabaceae)	<i>Diabrotica cristata</i> (Harris), <i>Disonycha admirabilia</i> Blatchley
<i>Schrankia</i> sp. (Fabaceae)	<i>Anomoea flavokansiensis</i> Moldenke, <i>A. laticlavata</i> (Forster), <i>Cryptocephalus triundulatus</i> White, <i>Pachybrachis calidus</i> Fall
<i>Scirpus acutus</i> Muhl. ex Bigelow (Cyperaceae)	<i>Donacia cuprea</i> Kirby, <i>D. pubescens</i> LeConte, <i>D. subtilis</i> Kunze
<i>Scirpus americanus</i> Pers. (Cyperaceae)	<i>Plateumaris flavipes</i> (Kirby)
<i>Scirpus atrovirens</i> Willd. (Cyperaceae)	<i>Chaetocnema irregularis</i> LeConte, <i>Stenispia metallica</i> (Fabricius)
<i>Scirpus fluviatilis</i> (J. Torr.) A. Gray (Cyperaceae)	<i>Diabrotica undecimpunctata</i> Mannerheim
<i>Scirpus microcarpus</i> J. Presl & C. Presl (Cyperaceae)	<i>Plateumaris nitida</i> (Germar)
<i>Scirpus occidentalis</i> (Wats.) Chase (Cyperaceae)	(see <i>Scirpus acutus</i> Muhl. ex Bigelow)
<i>Scirpus paludosus</i> Nels. (Cyperaceae)	<i>Donacia tuberculifrons</i> Schaeffer
<i>Scirpus validus</i> Vahl. (Cyperaceae)	(see <i>Schoenoplectus tabernaemontani</i> (C. C. Gmel.) Palla)
<i>Scirpus</i> sp. (Cyperaceae)	<i>Chaetocnema subconvexa</i> White, <i>Donacia biimpressa</i> Melsheimer, <i>D. distincta</i> LeConte, <i>D. fulgens</i> LeConte, <i>D. limonia</i> Schaeffer, <i>D. porosicollis</i> Lacordaire, <i>Neohaemonia flagellata</i> Askevold, <i>Plateumaris aurifera</i> (LeConte), <i>P. dubia</i> (Schaeffer), <i>P. fulvipes</i> (Lacordaire), <i>P. germari</i> (Mannerheim), <i>P. metallica</i> (Ahrens), <i>P. neomexicana</i> (Schaeffer), <i>P. pusilla</i> (Say), <i>P. robusta</i> (Schaeffer), <i>P. rufa</i> (Say), <i>P. shoemakeri</i> (Schaeffer), <i>Poecilocera harrisii</i> (LeConte)
<i>Scopolia carniolica</i> Jacq. (Solanaceae)	<i>Psylliodes affinis</i> (Paykull)
Scotch elm	(see <i>Ulmus glabra</i> Huds.)
Scotch pine	(see <i>Pinus sylvestris</i> L.)
<i>Scrophularia californica</i> Cham. & Schlecht. (Scrophulariaceae)	<i>Dibolia californica</i> Parry
<i>Scrophularia</i> sp. (Scrophulariaceae)	<i>Capraita thymoides</i> (Crotch)
Scuppernong grape	(see <i>Vitis rotundifolia</i> Michx.)
Scuppernong grape	(see <i>Vitis rotundifolia</i> Michx.)
Scurfpea	(see <i>Psoralea</i>)
<i>Scutellaria arenicola</i> Small (Lamiaceae)	<i>Phyllobrotica costipennis</i> Horn
<i>Scutellaria cardiophylla</i> Engelm. & Gray (Lamiaceae)	<i>Phyllobrotica circumdata</i> (Say)
<i>Scutellaria drummondii</i> Benth. (Lamiaceae)	<i>Asphaera lustrans</i> (Crotch), <i>Phyllobrotica circumdata</i> (Say), <i>P. sororia</i> Horn
<i>Scutellaria elliptica</i> Muhl. ex Spreng. (Lamiaceae)	<i>Phyllobrotica circumdata</i> (Say)
<i>Scutellaria epilobiifolia</i> A. Hamilton (Lamiaceae)	(see <i>Scutellaria galericulata</i> L.)
<i>Scutellaria galericulata</i> L. (Lamiaceae)	<i>Phyllobrotica decorata</i> (Say), <i>P. limbata</i> (Fabricius)
<i>Scutellaria incana</i> Biehler (Lamiaceae)	<i>Phyllobrotica circumdata</i> (Say)
<i>Scutellaria integrifolia</i> L. (Lamiaceae)	<i>Phyllobrotica circumdata</i> (Say)
<i>Scutellaria lateriflora</i> L. (Lamiaceae)	<i>Phyllobrotica decorata</i> (Say), <i>P. limbata</i> (Fabricius)
<i>Scutellaria ovata</i> Hill. (Lamiaceae)	<i>Capraita circumdata</i> (Randall), <i>Phyllobrotica limbata</i> (Fabricius)

<i>Scutellaria parvula</i> Michx. (Lamiaceae)	<i>Phyllobrotica lengi</i> Blatchley, <i>P. limbata</i> (Fabricius), <i>P. nigratarsis</i> Linell
<i>Scutellaria siphocampyloides</i> Valke (Lamiaceae)	<i>Phyllobrotica sequoiensis</i> Blake
<i>Scutellaria wrightii</i> Gray (Lamiaceae)	<i>Asphaera lustrans</i> (Crotch)
Sea-blite	(see <i>Suaeda</i>)
Sea-grape	(see <i>Coccoloba uvifera</i> (L.) L.)
Sea-purslane	(see <i>Sesuvium</i>)
Sea-rocket	(see <i>Cakile</i>)
Seaside morning-glory	(see <i>Ipomoea pes-caprae</i> (L.) R. Br.)
<i>Sebastiania fruticosa</i> (Bartram) Fernald (Euphorbiaceae)	<i>Glyptina brunnea</i> Horn, <i>G. schaefferi</i> (Blatchley)
<i>Secale cereale</i> L. (Poaceae)	<i>Chaetocnema denticulata</i> (Illiger), <i>C. pulicaria</i> Melsheimer, <i>Diabrotica undecimpunctata</i> Mannerheim, <i>D. virgifera</i> LeConte, <i>Oulema melanopus</i> (Linnaeus), <i>Paria canella</i> (Fabricius)
<i>Secale</i> sp. (Poaceae)	<i>Chaetocnema confinis</i> Crotch, <i>Paria fragariae</i> Wilcox, <i>P. quadrinotata</i> (Say), <i>Phyllotreta striolata</i> (Fabricius), <i>Systema blanda</i> Melsheimer
<i>Sechium edule</i> (Jacq.) Sw. (Cucurbitaceae)	<i>Acalymma trivittatum</i> (Melsheimer), <i>A. vittatum</i> (Fabricius), <i>Charidotella emarginata</i> (Boheman), <i>Diabrotica balteata</i> LeConte, <i>Phyllotreta striolata</i> (Fabricius)
<i>Selaginella</i> sp. (Selaginellaceae)	<i>Disonycha arizonae</i> Casey
<i>Senecio adonidifolius</i> Lois. (Asteraceae)	<i>Longitarsus jacobaeae</i> (Waterhouse), <i>L. succineus</i> (Foudras)
<i>Senecio aquaticus</i> Hill (Asteraceae)	<i>Gastrophysa polygoni</i> (Linnaeus), <i>Longitarsus flavicornis</i> (Stephens), <i>L. ganglbaueri</i> Heikertinger, <i>L. jacobaeae</i> (Waterhouse), <i>Oulema melanopus</i> (Linnaeus)
<i>Senecio aureus</i> L. (Asteraceae)	<i>Brachypnoea puncticolis</i> (Say), <i>Cryptocephalus insertus</i> Haldeman
<i>Senecio californicus</i> DC. (Asteraceae)	<i>Longitarsus repandus</i> LeConte
<i>Senecio crucifolius</i> L. (Asteraceae)	<i>Longitarsus jacobaeae</i> (Waterhouse)
<i>Senecio cruentus</i> (Masson & L'Her.) DC. (Asteraceae)	<i>Longitarsus jacobaeae</i> (Waterhouse)
<i>Senecio douglasii</i> DC. (Asteraceae)	<i>Longitarsus vanus</i> Horn
<i>Senecio erraticus</i> Bert. (Asteraceae)	<i>Gastrophysa polygoni</i> (Linnaeus), <i>Longitarsus ganglbaueri</i> Heikertinger, <i>L. jacobaeae</i> (Waterhouse), <i>Oulema melanopus</i> (Linnaeus)
<i>Senecio erucaeformis</i> Remy (Asteraceae)	<i>Longitarsus jacobaeae</i> (Waterhouse)
<i>Senecio erucifolius</i> L. (Asteraceae)	<i>Longitarsus jacobaeae</i> (Waterhouse), <i>Psylliodes chalconeris</i> (Illiger)
<i>Senecio flaccidus</i> Less. (Asteraceae)	<i>Longitarsus bicolor</i> Horn
<i>Senecio giganteus</i> Desf. (Asteraceae)	<i>Longitarsus jacobaeae</i> (Waterhouse)
<i>Senecio glaucophyllus</i> Cheeseman (Asteraceae)	<i>Longitarsus jacobaeae</i> (Waterhouse)
<i>Senecio inaeqidens</i> DC. (Asteraceae)	<i>Longitarsus ganglbaueri</i> Heikertinger
<i>Senecio jacobaea</i> L. (Asteraceae)	<i>Longitarsus flavicornis</i> (Stephens), <i>L. ganglbaueri</i> Heikertinger, <i>L. jacobaeae</i> (Waterhouse), <i>L. pratensis</i> (Panzer), <i>L. succineus</i> (Foudras), <i>Oulema melanopus</i> (Linnaeus), <i>Sermylassa halensis</i> (Linnaeus)
<i>Senecio lagopus</i> Raoul (Asteraceae)	<i>Longitarsus jacobaeae</i> (Waterhouse)
<i>Senecio longilobus</i> Benth. (Asteraceae)	<i>Longitarsus repandus</i> LeConte
<i>Senecio nemorensis</i> L. (Asteraceae)	<i>Longitarsus jacobaeae</i> (Waterhouse)
<i>Senecio paludosus</i> L. (Asteraceae)	<i>Longitarsus jacobaeae</i> (Waterhouse)
<i>Senecio pseudoreureus</i> Rydb. (Asteraceae)	<i>Longitarsus ganglbaueri</i> Heikertinger
<i>Senecio quadridentatus</i> Labill. (Asteraceae)	<i>Longitarsus jacobaeae</i> (Waterhouse)
<i>Senecio salignus</i> DC. (Asteraceae)	(see <i>Barkleyanthus salicifolius</i> (Kunth) H. E. Robins. & Brett)
<i>Senecio serra</i> Hook. (Asteraceae)	<i>Longitarsus jacobaeae</i> (Waterhouse), <i>Pachybrachis melanostictus</i> Suffrian, <i>Phyllotreta albionica</i> (LeConte), <i>Trirhabda canadensis</i> (Kirby)
<i>Senecio squalidus</i> L. (Asteraceae)	<i>Longitarsus jacobaeae</i> (Waterhouse)
<i>Senecio sylvaticus</i> L. (Asteraceae)	<i>Longitarsus ganglbaueri</i> Heikertinger, <i>L. jacobaeae</i> (Waterhouse)
<i>Senecio triangularis</i> Hook. (Asteraceae)	<i>Longitarsus ganglbaueri</i> Heikertinger, <i>L. jacobaeae</i> (Waterhouse)
<i>Senecio viscosus</i> L. (Asteraceae)	<i>Longitarsus ganglbaueri</i> Heikertinger

Leaf Beetles Listed by Plants

- Senecio vulgaris* L. (Asteraceae) *Longitarsus ganglbaueri* Heikertinger, *L. jacobaeae* (Waterhouse)
- Senecio wairauensis* Belcher (Asteraceae) *Longitarsus jacobaeae* (Waterhouse)
- Senecio* sp. (Asteraceae) *Chrysolina subsulcata* (Mannerheim), *Diabrotica undecimpunctata* Mannerheim, *Oulema cornuta* (Fabricius), *Pachybrachis luridus* (Fabricius), *P. nigricornis* (Say), *Phaedon cyanescens* Stål, *Pseudoluperus longulus* (LeConte), *Trirhabda flavolimbata* (Mannerheim), *Zygogramma piceicollis* (Stål), *Z. signatipennis* (Stål)
- Senna alexandrina* Mill. (Fabaceae) *Leptinotarsa lineolata* (Stål)
- Senna polyphylla* (Jacq.) H. S. Irwin & Barneby (Fabaceae) *Deloyala guttata* (Olivier)
- Senna* sp. (Fabaceae) *Diabrotica virgifera* LeConte
- Sequoia sempervirens* (D. Don) Endl. (Taxodiaceae) *Altica prasina* LeConte, *Glyptoscelis sequoiae* Blaisdell, *Thricolema anomala* Crotch
- Serenoa repens* (Bartr.) Small (Arecaceae) *Hemisphaerota cyanea* (Say)
- Serenoa* sp. (Arecaceae) *Brucita marmorata* (Jacoby)
- Sericocarpus asteroides* (L.) B.S.P. (Asteraceae) *Microrhopala xerene* (Newman)
- Sericocarpus* sp. (Asteraceae) *Microrhopala vittata* (Fabricius)
- Serratula* sp. (Asteraceae) *Sphaeroderma testaceum* (Fabricius)
- Serviceberry (see *Amelanchier*)
- Sesame (see *Sesamum indicum* L.)
- Sesamum indicum* L. (Pedaliaceae) *Cerotoma ruficornis* (Olivier), *Diabrotica balteata* LeConte, *Disonycha discoidea* (Fabricius), *D. glabrata* (Fabricius), *Octotoma scabripennis* Guérin-Ménéville, *Plagiometriona clavata* (Fabricius), *Typophorus nigrinus* (Fabricius), *Uroplata girardi* Pic
- Sesamum orientale* L. (Pedaliaceae) (see *Sesamum indicum* L.)
- Sesamum* sp. (Pedaliaceae) *Cerotoma atrofasciata* Jacoby, *Charidotella sexpunctata* (Fabricius), *Lema confusa* Chevrolat, *Metrionella bilimeki* (Spaeth), *Octotoma championi* Baly
- Sesbania aculeata* (Willd.) Pers. (Fabaceae) (see *Sesbania bispinosa* (Jacq.) Spreng. ex Steud.)
- Sesbania bispinosa* (Jacq.) Spreng. ex Steud. (Fabaceae) *Diabrotica balteata* LeConte
- Sesbania macrocarpa* Muhl. ex Raf. (Fabaceae) *Neolema sexpunctata* (Olivier)
- Sesbania* sp. (Fabaceae) *Anomoea flavokansiensis* Moldenke, *Diabrotica virgifera* LeConte
- Sesuvium maritimum* (Walt.) B.S.P. (Aizoaceae) *Altica marevagans* Horn
- Sesuvium portulacastrum* (L.) L. (Aizoaceae) *Erynephala puncticollis* (Say)
- Sesuvium sessile* Pers. (Aizoaceae) (see *Sesuvium portulacastrum* (L.) L.)
- Setaria faberi* Herrm. (Poaceae) *Chaetocnema pulicaria* Melsheimer, *Diabrotica cristata* (Harris), *D. virgifera* LeConte, *Oulema melanopus* (Linnaeus), *Systema frontalis* (Fabricius)
- Setaria glauca* (L.) Beauv. (Poaceae) *Chaetocnema denticulata* (Illiger), *C. pulicaria* Melsheimer, *Diabrotica barberi* Smith & Lawrence, *D. longicornis* (Say), *D. virgifera* LeConte, *Systema blanda* Melsheimer
- Setaria italica* (L.) P. Beauv. (Poaceae) *Chaetocnema denticulata* (Illiger), *C. pulicaria* Melsheimer, *Diabrotica virgifera* LeConte, *Oulema melanopus* (Linnaeus), *Paria canella* (Fabricius)
- Setaria lutescens* (Weigel) Hubb. (Poaceae) (see *Setaria glauca* (L.) Beauv.)
- Setaria viridis* (L.) Beauv. (Poaceae) *Chaetocnema denticulata* (Illiger), *Diabrotica barberi* Smith & Lawrence, *D. longicornis* (Say), *D. virgifera* LeConte
- Setaria* sp. (Poaceae) *Diabrotica undecimpunctata* Mannerheim, *Paria quadrinotata* (Say), *Phyllotreta striolata* (Fabricius)
- Seymeria cassioides* (J. F. Gmel.) Blake (Scrophulariaceae) *Kuschelina miniata* (Fabricius)
- Shad-berry (see *Amelanchier*)
- Shadbush (see *Amelanchier*)
- Shagbark hickory (see *Carya ovata* (Mill.) K. Koch)
- Shasta daisy (see *Leucanthemum x superbum* (J. W. Ingram) Berg. ex Kent.)
- Sheep sorrel (see *Rumex acetosella* L.)
- Shepherd's purse (see *Capsella bursa-pastoris* (L.) Medik.)
- Shiny leaf willow (see *Salix lucida* Muhl.)
- Shiny willow (see *Salix lucida* Muhl.)

Shortleaf pine	(see <i>Pinus echinata</i> P. Mill.)
Siberian crab apple	(see <i>Malus baccata</i> (L.) Borkh.)
Siberian elm	(see <i>Ulmus pumila</i> L.)
<i>Sicana</i> sp. (Cucurbitaceae)	<i>Epitrix cucumeris</i> (Harris)
<i>Sicyos angulatus</i> L. (Cucurbitaceae)	<i>Acalymma gouldi</i> Barber, <i>A. vittatum</i> (Fabricius), <i>Asphaera abdominalis</i> (Chevrolat), <i>Diabrotica undecimpunctata</i> Mannerheim
<i>Sicyos</i> sp. (Cucurbitaceae)	<i>Diabrotica virgifera</i> LeConte
<i>Sida angustifolia</i> Lam. (Malvaceae)	(see <i>Sida spinosa</i> L.)
<i>Sida carpinifolia</i> L. f. (Malvaceae)	(see <i>Malvastrum coromandelianum</i> (L.) Garcke)
<i>Sida cordifolia</i> L. (Malvaceae)	<i>Brachycoryna pumila</i> Guérin-Ménéville
<i>Sida glutinosa</i> Comm. ex Cav. (Malvaceae)	<i>Chlamisus quadrilobatus</i> (Schaeffer)
<i>Sida hastata</i> (Cav.) Willd. (Malvaceae)	<i>Neolema dorsalis</i> (Olivier)
<i>Sida rhombifolia</i> L. (Malvaceae)	<i>Brachycoryna pumila</i> Guérin-Ménéville, <i>Calligrapha fulvipes</i> Stål
<i>Sida spinosa</i> L. (Malvaceae)	<i>Brachycoryna pumila</i> Guérin-Ménéville
<i>Sida</i> sp. (Malvaceae)	<i>Cerotoma atrofasciata</i> Jacoby, <i>C. ruficornis</i> (Olivier), <i>Disonycha fumata</i> (LeConte), <i>Metrionella bilimeki</i> (Spaeth)
<i>Sidalcea malvaeflora</i> (DC.) A. Gray ex Benth. (Malvaceae)	<i>Calligrapha sigmoidea</i> (LeConte)
<i>Sidalcea reptans</i> E. L. Greene (Malvaceae)	<i>Calligrapha sigmoidea</i> (LeConte)
<i>Sideritis pullulans</i> Vent. (Lamiaceae)	<i>Longitarsus luridus</i> (Scopoli)
<i>Sideroxylon lanuginosa</i> Michx. (Sapotaceae)	<i>Monomacra opaca</i> Wilcox
<i>Sideroxylon</i> sp. (Sapotaceae)	<i>Asphaera abdominalis</i> (Chevrolat), <i>Diabrotica virgifera</i> LeConte
<i>Silene acaulis</i> (L.) Jacq. (Caryophyllaceae)	<i>Cassida azurea</i> Fabricius
<i>Silene alba</i> (Mill.) E. H. L. Krause (Caryophyllaceae)	<i>Cassida azurea</i> Fabricius
<i>Silene alpestris</i> Jacq. (Caryophyllaceae)	(see <i>Ixoca quadrifida</i> (L.) Soják)
<i>Silene antirrhina</i> L. (Caryophyllaceae)	<i>Cassida azurea</i> Fabricius
<i>Silene behen</i> L. (Caryophyllaceae)	<i>Cassida azurea</i> Fabricius
<i>Silene cucubalus</i> Wibel (Caryophyllaceae)	(see <i>Oberna behen</i> (L.) Ikonn.)
<i>Silene glauca</i> Pour. (Caryophyllaceae)	<i>Cassida azurea</i> Fabricius
<i>Silene maritima</i> With. (Caryophyllaceae)	(see <i>Oberna uniflora</i> (Roth) Ikonn.)
<i>Silene menziesii</i> Hooker (Caryophyllaceae)	<i>Cassida azurea</i> Fabricius
<i>Silene noctiflora</i> L. (Caryophyllaceae)	<i>Cassida azurea</i> Fabricius
<i>Silene rotundifolia</i> Nuttall (Caryophyllaceae)	<i>Cassida azurea</i> Fabricius
<i>Silene schafta</i> G. Gmelin (Caryophyllaceae)	<i>Cassida azurea</i> Fabricius
<i>Silene stellata</i> (L.) Ait. f. (Caryophyllaceae)	<i>Disonycha triangularis</i> (Say)
<i>Silene virginica</i> L. (Caryophyllaceae)	<i>Cassida azurea</i> Fabricius
<i>Silene vulgaris</i> (Moench) Garcke (Caryophyllaceae)	(see <i>Oberna behen</i> (L.) Ikonn.)
<i>Silene</i> sp. (Caryophyllaceae)	<i>Cassida flaveola</i> Thunberg, <i>C. nobilis</i> Linnaeus
Silkweed	(see <i>Asclepias</i>)
Silky dogwood	(see <i>Cornus amomum</i> Mill.)
<i>Silphium laciniatum</i> L. (Asteraceae)	<i>Capraita thymaoides</i> (Crotch), <i>Microrhopala vittata</i> (Fabricius)
<i>Silphium perfoliatum</i> L. (Asteraceae)	<i>Diabrotica undecimpunctata</i> Mannerheim, <i>Microrhopala laetula</i> LeConte, <i>M. vittata</i> (Fabricius)
<i>Silphium terebinthinaceum</i> Jacq. (Asteraceae)	<i>Microrhopala laetula</i> LeConte, <i>Pachybrachis othonus</i> (Say), <i>Systema hudsonias</i> (Forster)
<i>Silphium</i> sp. (Asteraceae)	<i>Diabrotica cristata</i> (Harris), <i>Exema dispar</i> Lacordaire, <i>Myochrous intermedius</i> Blake, <i>Physonota unipunctata</i> (Say)
Silver maple	(see <i>Acer saccharinum</i> L.)
<i>Silybum marianum</i> (L.) Gaertn. (Asteraceae)	<i>Altica carduorum</i> Guérin-Ménéville, <i>Cassida rubiginosa</i> Müller, <i>Diabrotica undecimpunctata</i> Mannerheim, <i>Gastrophysa polygoni</i> (Linnaeus), <i>Lema puncticollis</i> (Curtis), <i>Psylliodes chalconeris</i> (Illiger), <i>Sphaeroderma testaceum</i> (Fabricius)
<i>Silybum</i> sp. (Asteraceae)	<i>Chrysolina staphylaea</i> (Linnaeus)
<i>Simsia amplexicaulis</i> (Cav.) Pers. (Asteraceae)	<i>Calligrapha dislocata</i> (Rogers), <i>Phaedon cyaneus</i> Stål, <i>Zygogramma piceicollis</i> (Stål), <i>Z. signatipennis</i> (Stål)
<i>Simsia</i> sp. (Asteraceae)	<i>Longitarsus varicornis</i> Suffrian

Leaf Beetles Listed by Plants

<i>Sinapis alba</i> L. (Brassicaceae)	<i>Diabrotica balteata</i> LeConte, <i>Entomoscelis americana</i> Brown, <i>Phyllotreta cruciferae</i> (Goeze), <i>P. striolata</i> (Fabricius), <i>P. undulata</i> (Kutschera), <i>Psylliodes chrysocephalus</i> (Linnaeus)
<i>Sinapis allionii</i> Jacq. (Brassicaceae)	<i>Phyllotreta cruciferae</i> (Goeze)
<i>Sinapis arvensis</i> L. (Brassicaceae)	<i>Acalymma vittatum</i> (Fabricius), <i>Entomoscelis americana</i> Brown, <i>Epitrix fasciata</i> Blatchley, <i>E. tuberosa</i> Gentner, <i>Phyllotreta bipustulata</i> (Fabricius), <i>P. conjuncta</i> Gentner, <i>P. cruciferae</i> (Goeze), <i>P. punctulata</i> (Marsham), <i>P. robusta</i> LeConte, <i>P. striolata</i> (Fabricius), <i>P. undulata</i> (Kutschera), <i>Psylliodes chrysocephalus</i> (Linnaeus)
<i>Sinapis aucheri</i> Schultz (Brassicaceae)	<i>Phyllotreta cruciferae</i> (Goeze)
<i>Sinapis flexuosa</i> Poir. (Brassicaceae)	<i>Phyllotreta cruciferae</i> (Goeze)
<i>Sinapis pubescens</i> L. (Brassicaceae)	<i>Phyllotreta cruciferae</i> (Goeze), <i>Psylliodes chrysocephalus</i> (Linnaeus), <i>P. napi</i> (Fabricius)
<i>Sisymbrium altissimum</i> L. (Brassicaceae)	<i>Entomoscelis americana</i> Brown, <i>Galeruca browni</i> Blake, <i>G. externa</i> Say, <i>Phyllotreta cruciferae</i> (Goeze), <i>P. lepidula</i> (LeConte), <i>P. punctulata</i> (Marsham)
<i>Sisymbrium canescens</i> Nutt. (Brassicaceae)	<i>Phyllotreta pusilla</i> Horn
<i>Sisymbrium incisum</i> Englem. (Brassicaceae)	(see <i>Descurainia richardsonii</i> (Sweet) O. W. Schultz)
<i>Sisymbrium irio</i> L. (Brassicaceae)	<i>Phyllotreta aeneicollis</i> (Crotch), <i>P. cruciferae</i> (Goeze), <i>P. pusilla</i> Horn
<i>Sisymbrium loeselii</i> L. (Brassicaceae)	<i>Entomoscelis americana</i> Brown, <i>Phyllotreta cruciferae</i> (Goeze)
<i>Sisymbrium officinale</i> (L.) Scop. (Brassicaceae)	<i>Leptinotarsa decemlineata</i> (Say), <i>Phyllotreta albionica</i> (LeConte), <i>P. bipustulata</i> (Fabricius), <i>P. cruciferae</i> (Goeze), <i>P. pusilla</i> Horn, <i>P. undulata</i> (Kutschera), <i>P. utana</i> Chittenden, <i>Psylliodes chrysocephalus</i> (Linnaeus), <i>P. punctulatus</i> Melsheimer
<i>Sisymbrium orientale</i> L. (Brassicaceae)	<i>Phyllotreta cruciferae</i> (Goeze), <i>P. undulata</i> (Kutschera)
<i>Sisymbrium sinapistrum</i> Crantz (Brassicaceae)	<i>Phyllotreta cruciferae</i> (Goeze)
<i>Sisymbrium strictissimum</i> L. (Brassicaceae)	<i>Phyllotreta undulata</i> (Kutschera)
<i>Sisymbrium</i> sp. (Brassicaceae)	<i>Phyllotreta striolata</i> (Fabricius)
<i>Sium cicutifolium</i> Schrank (Apiaceae)	<i>Acalymma vittatum</i> (Fabricius), <i>Diabrotica longicornis</i> (Say), <i>D. undecimpunctata</i> Mannerheim
<i>Sium suave</i> Walt. (Apiaceae)	<i>Prasocuris phellandrii</i> (Linnaeus)
Skunk cabbage	(see <i>Lysichiton camtschatcense</i> (L.) Schott., <i>Symplocarpus foetidus</i> (L.) W. Salisb.)
Skunk-weed	(see <i>Cannabis</i> , <i>Navarretia</i> , <i>Symplocarpus</i>)
Slash pine	(see <i>Pinus elliotii</i> Engelm.)
Slippery elm	(see <i>Ulmus rubra</i> Muhl.)
Small-flowered prairie rocket	(see <i>Erysimum inconspicuum</i> (Wats.) Mac-Mill.)
Smartweed	(see <i>Polygonum</i>)
<i>Smilacina</i> sp. (Liliaceae)	(see <i>Maianthemum</i>)
<i>Smilax bona-nox</i> L. (Smilacaceae)	<i>Rhabdopterus praetextus</i> (Say)
<i>Smilax rotundifolia</i> L. (Smilacaceae)	<i>Pachyonychus paradoxus</i> Melsheimer, <i>Systema frontalis</i> (Fabricius)
<i>Smilax tamnoides</i> L. (Smilacaceae)	<i>Pachyonychus paradoxus</i> Melsheimer
<i>Smilax</i> sp. (Smilacaceae)	<i>Crioceris asparagi</i> (Linnaeus), <i>C. duodecimpunctata</i> (Linnaeus), <i>Diabrotica undecimpunctata</i> Mannerheim, <i>Epitrix cucumeris</i> (Harris), <i>Lilioceris lili</i> (Scopoli), <i>Pachyonychus paradoxus</i> Clark, <i>Rhabdopterus deceptor</i> Barber, <i>R. picipes</i> (Olivier)
Smoke-tree	(see <i>Cotinus</i>)
Smooth brome	(see <i>Bromus inermis</i> Leyss.)
Smooth sumac	(see <i>Rhus glabra</i> L.)
Snakeweed	(see <i>Gutierrezia</i>)
Snap bean	(see <i>Phaseolus vulgaris</i> L.)
Snapdragon	(see <i>Antirrhinum</i> , <i>Chaenorrhinum</i>)
Soft maple	(see <i>Acer saccharinum</i> L.)
Soja bean	(see <i>Glycine max</i> (L.) Merr.)
<i>Solandra guttata</i> Don (Solanaceae)	<i>Lema daturaphila</i> Kogan & Goeden
<i>Solandra hartwegi</i> C. F. Ball (Solanaceae)	(see <i>Solandra maxima</i> (Sessé & Moc.) P. S.

Green)

<i>Solandra maxima</i> (Sessé & Moc.) P. S. Green (Solanaceae)	<i>Lema daturaphila</i> Kogan & Goeden
<i>Solandra nitida</i> Zuccagni (Solanaceae)	<i>Lema daturaphila</i> Kogan & Goeden
<i>Solanum abancayense</i> Ochoa (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa</i> <i>decemlineata</i> (Say)
<i>Solanum acanthoideum</i> E. Mey. (Solanaceae)	<i>Gratiana pallidula</i> (Boheman), <i>Leptino-</i> <i>tarsa texana</i> (Stål)
<i>Solanum acaule</i> Bitt. (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa</i> <i>decemlineata</i> (Say)
<i>Solanum acroglossum</i> Juz. (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa</i> <i>decemlineata</i> (Say)
<i>Solanum acroscopicum</i> Ochoa (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa</i> <i>decemlineata</i> (Say)
<i>Solanum aculeastrum</i> Dun. (Solanaceae)	<i>Gratiana pallidula</i> (Boheman)
<i>Solanum aculeatissimum</i> Jacq. (Solanaceae)	<i>Gratiana pallidula</i> (Boheman), <i>Leptino-</i> <i>tarsa decemlineata</i> (Say)
<i>Solanum agrimoniifolium</i> Rydberg (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa</i> <i>decemlineata</i> (Say)
<i>Solanum ajanhuiri</i> Juz. & Buk. (Solanaceae)	<i>Epitrix cucumeris</i> (Harris)
<i>Solanum ajuscoense</i> Buk. ex Rybin (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum alandiae</i> Cárdenas (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa</i> <i>decemlineata</i> (Say)
<i>Solanum alatum</i> Dunal (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum albicans</i> (Ochoa) Ochoa (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa</i> <i>decemlineata</i> (Say)
<i>Solanum albornozii</i> Corr. (Solanaceae)	<i>Epitrix cucumeris</i> (Harris)
<i>Solanum ambosinum</i> Ochoa (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa</i> <i>decemlineata</i> (Say)
<i>Solanum americanum</i> P. Mill. (Solanaceae)	<i>Acallepitrax nitens</i> (Horn), <i>Disonycha tri-</i> <i>angularis</i> (Say), <i>Epitrix brevis</i> Schwarz, <i>E. cucumeris</i> (Harris), <i>E. fasciata</i> Blatchley, <i>E. fuscata</i> Crotch, <i>E. hirtipennis</i> (Melsheimer), <i>E. humeralis</i> Dury, <i>E. similis</i> Gentner, <i>E. subcrinita</i> (LeConte), <i>E. tuberosa</i> Gentner, <i>Lema daturaphila</i> Kogan & Goeden, <i>L. opulenta</i> Gemminger & Harold, <i>L. solani</i> Fabricius, <i>L.</i> <i>trivittata</i> Say, <i>Leptinotarsa decemlineata</i> (Say), <i>L. haldemani</i> (Rogers), <i>Parorectis callosa</i> (Boheman), <i>Plagiometrona clavata</i> (Fabricius), <i>Psylliodes affinis</i> (Paykull), <i>Systema blanda</i> Melsheimer
<i>Solanum andigena</i> Juz. & Buk. (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa</i> <i>decemlineata</i> (Say)
<i>Solanum andreamum</i> Baker (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa</i> <i>decemlineata</i> (Say)
<i>Solanum angustifolium</i> Mill. (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say), <i>L. halde-</i> <i>mani</i> (Rogers)
<i>Solanum antipoviczii</i> Buk. ex Rybin (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum atropurpureum</i> Schrank (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum auriculatum</i> Aiton (Solanaceae)	(see <i>Solanum mauritanum</i> Scop.)
<i>Solanum aviculare</i> G. Forst. (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum avilesii</i> Hawkes & Hjerting (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa</i> <i>decemlineata</i> (Say)
<i>Solanum balbisii</i> Dunal (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum barbisetum</i> Nees (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum berthaultii</i> Hawkes (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa</i> <i>decemlineata</i> (Say)
<i>Solanum blanco-galdosii</i> Ochoa (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa</i> <i>decemlineata</i> (Say)
<i>Solanum boliviense</i> Dunal (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa</i> <i>decemlineata</i> (Say)
<i>Solanum bonariense</i> L. (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum brachistotrichum</i> (Bitt.) Rydb. (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa</i> <i>decemlineata</i> (Say)
<i>Solanum brachycarpum</i> Corr. (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa</i> <i>decemlineata</i> (Say)

Leaf Beetles Listed by Plants

<i>Solanum brevicaulle</i> Bitter (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum brevidens</i> Phil. (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum bukasovii</i> Juz. (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum bulbocastanum</i> Dunal (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum burbankii</i> Bitter (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>E. fasciata</i> Blatchley, <i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum burchellii</i> Dun. (Solanaceae)	<i>Gratiana pallidula</i> (Boheman)
<i>Solanum caldasii</i> Dunal (Solanaceae)	(see <i>Solanum ochranthum</i> Dunal)
<i>Solanum canasense</i> Hawkes (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum candolleanum</i> Berth. (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum capsicastrum</i> Link ex Schauer (Solanaceae)	(see <i>Solanum diflorum</i> Vell.)
<i>Solanum capsicibaccatum</i> Cardot (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum cardiophyllum</i> Lindl. (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum cariense</i> A. Chevalier (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum carolinense</i> L. (Solanaceae)	<i>Chaetocnema pulicaria</i> Melsheimer, <i>Colaspis brunnea</i> (Fabricius), <i>Coleothorpa axillaris</i> (LeConte), <i>Diabrotica undecimpunctata</i> Mannerheim, <i>Epitrix cucumeris</i> (Harris), <i>E. fasciata</i> Blatchley, <i>E. fuscata</i> Crotch, <i>E. hirtipennis</i> (Melsheimer), <i>E. subcrinita</i> (LeConte), <i>E. tuberosa</i> Gentner, <i>Gratiana pallidula</i> (Boheman), <i>Lema conjuncta</i> Lacordaire, <i>L. daturaphila</i> Kogan & Goeden, <i>L. solani</i> Fabricius, <i>Leptinotarsa decemlineata</i> (Say), <i>L. defecta</i> (Stål), <i>L. juncta</i> (Germar), <i>L. texana</i> Schaeffer, <i>Plagiometriona clavata</i> (Fabricius)
<i>Solanum cervantesii</i> Lag. (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say), <i>Zygo-gramma signatipennis</i> (Stål)
<i>Solanum chacoense</i> Bitter (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum chancayense</i> Ochoa (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum chiquidenum</i> Ochoa (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum chomatophilum</i> Bitt. (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum chrysotrichum</i> Schl. (Solanaceae)	(see <i>Solanum torvum</i> Sw.)
<i>Solanum ciliatum</i> Lam. (Solanaceae)	(see <i>Solanum aculeatissimum</i> Jacq.)
<i>Solanum circaeifolium</i> Bitter (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum citrullifolium</i> A. Braun (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum clarum</i> Corr. (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum coccineum</i> Jacq. (Solanaceae)	<i>Gratiana pallidula</i> (Boheman), <i>Leptinotarsa defecta</i> (Stål), <i>L. texana</i> Schaeffer
<i>Solanum colombianum</i> Dunal (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum commersonii</i> Dunal (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum cornutum</i> Lam. (Solanaceae)	(see <i>Solanum angustifolium</i> Mill.)
<i>Solanum curtisii</i> Juz. & Buk. (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum davisense</i> Whalen (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum deflexum</i> Greenm. (Solanaceae)	<i>Leptinotarsa haldemani</i> (Rogers), <i>L. rubiginosa</i> (Rogers)
<i>Solanum demissum</i> Lindl. (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum diflorum</i> Vell. (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum dimidiatum</i> Raf. (Solanaceae)	<i>Gratiana pallidula</i> (Boheman), <i>Leptinotarsa decemlineata</i> (Say), <i>L. defecta</i> (Stål), <i>L. texana</i> Schaeffer

<i>Solanum discolor</i> R. Br. (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum diversifolium</i> Schltld. (Solanaceae)	(see <i>Solanum rudepannum</i> Dunal)
<i>Solanum doddsii</i> Corr. (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum dolichocremastrum</i> Bitter (Solanaceae)	<i>Epitrix cucumeris</i> (Harris)
<i>Solanum donianum</i> Walpers (Solanaceae)	<i>Leptinotarsa texana</i> Schaeffer
<i>Solanum douglasii</i> Dun. (Solanaceae)	<i>Diabrotica balteata</i> LeConte, <i>Epitrix similis</i> Gentner, <i>Leptinotarsa haldemani</i> (Rogers), <i>L. rubiginosa</i> (Rogers), <i>Plagiometriona clavata</i> (Fabricius)
<i>Solanum dulcamara</i> L. (Solanaceae)	<i>Baliosus nervosus</i> (Panzer), <i>Charidotella sexpunctata</i> (Fabricius), <i>Chelymorpha cassidea</i> (Fabricius), <i>Epitrix brevis</i> Schwarz, <i>E. cucumeris</i> (Harris), <i>E. fuscula</i> Crotch, <i>E. hirtipennis</i> (Melsheimer), <i>E. subcrinita</i> (LeConte), <i>E. tuberosa</i> Gentner, <i>Lema daturaphila</i> Kogan & Goeden, <i>Leptinotarsa decemlineata</i> (Say), <i>L. defecta</i> (Stål), <i>L. haldemani</i> (Rogers), <i>L. juncta</i> (Germar), <i>L. rubiginosa</i> (Rogers), <i>L. texana</i> Schaeffer, <i>L. tumamoca</i> Tower, <i>Liliocercis lilii</i> (Scopoli), <i>Plagiometriona clavata</i> (Fabricius), <i>Psylliodes affinis</i> (Paykull)
<i>Solanum duplo-sinuatum</i> Klotzsch (Solanaceae)	<i>Gratiana pallidula</i> (Boheman)
<i>Solanum edinense</i> Berthault (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum ehrenbergii</i> Rydb. (Solanaceae)	<i>Epitrix cucumeris</i> (Harris)
<i>Solanum elaeagnifolium</i> Cav. (Solanaceae)	<i>Altica foliaceae</i> LeConte, <i>Chaetocnema ectypa</i> Horn, <i>C. minuta</i> Melsheimer, <i>C. opacula</i> LeConte, <i>Chelymorpha cassidea</i> (Fabricius), <i>Cryptcephalus amatus</i> Haldeman, <i>Diabrotica balteata</i> LeConte, <i>D. tibialis</i> Jacoby, <i>D. undecimpunctata</i> Mannerheim, <i>Disonychia alternata</i> (Illiger), <i>D. glabrata</i> (Fabricius), <i>Epitrix fasciata</i> Blatchley, <i>E. fuscula</i> Crotch, <i>E. hirtipennis</i> (Melsheimer), <i>Glyptina brunnea</i> Horn, <i>Gratiana pallidula</i> (Boheman), <i>Lema trivittata</i> Say, <i>Leptinotarsa decemlineata</i> (Say), <i>L. defecta</i> (Stål), <i>L. texana</i> Schaeffer, <i>L. undecimlineata</i> (Stål), <i>Metapharia opacicollis</i> (Horn), <i>Myochrous denticollis</i> (Say), <i>Paranapiacaba tricolor</i> (Say), <i>Phaedon cyaneus</i> Stål, <i>Pteleon brevicornis</i> (Jacoby), <i>Systema blanda</i> Melsheimer, <i>Triarius vittipennis</i> (Horn), <i>Zygogramma piceicollis</i> (Stål)
<i>Solanum erianthum</i> D. Don (Solanaceae)	<i>Epitrix fasciata</i> Blatchley
<i>Solanum etuberosum</i> Lindl. (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum fendleri</i> A. Gray (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum fernandezianum</i> Phil. (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum fructotecto</i> Cav. (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum gandarillasii</i> Cárdenas (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum giftbergense</i> Dun. (Solanaceae)	<i>Gratiana pallidula</i> (Boheman), <i>Leptinotarsa defecta</i> (Stål), <i>L. texana</i> Schaeffer
<i>Solanum giganteum</i> Jacq. (Solanaceae)	<i>Leptinotarsa texana</i> Schaeffer
<i>Solanum gilo</i> Raddi (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum gourlayi</i> Hawkes (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum gracile</i> Link (Solanaceae)	(see <i>Solanum gracilius</i> Herter)
<i>Solanum gracilius</i> Herter (Solanaceae)	<i>Plagiometriona clavata</i> (Fabricius)
<i>Solanum grayi</i> Rose (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum guerreroense</i> Corr. (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum guineense</i> L. (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum hartwegii</i> Benth. (Solanaceae)	(see <i>Solanum lanceolatum</i> Cav.)
<i>Solanum hazenii</i> Britton (Solanaceae)	<i>Plagiometriona clavata</i> (Fabricius)
<i>Solanum hendersonii</i> W. Wright (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum henryi</i> Bukasov & Lechn. (Solanaceae)	(see <i>Solanum commersonii</i> Dunal)
<i>Solanum herrerae</i> Juzopczuk (Solanaceae)	<i>Epitrix cucumeris</i> (Harris)
<i>Solanum heterodoxum</i> Dun. (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum hispidum</i> Pers. (Solanaceae)	<i>Gratiana pallidula</i> (Boheman), <i>Leptinotarsa defecta</i> (Stål)
<i>Solanum hjertingii</i> Hawkes (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum hondelmannii</i> Hawkes & Hjerting (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa decemlineata</i> (Say)

Leaf Beetles Listed by Plants

<i>Solanum hougasii</i> Corr. (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum huancabambense</i> Ochoa (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum immite</i> Dun. (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum incamayoense</i> Okada (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum incanum</i> L. (Solanaceae)	<i>Gratiana pallidula</i> (Boheman), <i>Leptinotarsa defecta</i> (Stål), <i>L. texana</i> Schaeffer
<i>Solanum indicum</i> L. (Solanaceae)	<i>Epitrix fasciata</i> Blatchley
<i>Solanum infundibuliforme</i> Phil. (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum iopetalum</i> (Bitt.) Hawkes (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum jalcae</i> Ochoa (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum jamesii</i> J. Torr. (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum jasminoides</i> Paxt. (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum johnstonii</i> Whalen (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum kurtzianum</i> Bitter & Wittm. (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum laciniatum</i> Ait. (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say), <i>Lilioceris lili</i> (Scopoli)
<i>Solanum lanceolatum</i> Cav. (Solanaceae)	<i>Asphaera abdominalis</i> (Chevrolat), <i>Leptinotarsa decemlineata</i> (Say), <i>L. undecimlineata</i> (Stål)
<i>Solanum laurifolium</i> Lf. (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum laxissimum</i> Bitter (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum leptophyes</i> Bitt. (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum lesteri</i> Hawkes & Hjerting (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum lignicaule</i> Vargas (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum limbaniense</i> Ochoa (Solanaceae)	<i>Epitrix cucumeris</i> (Harris)
<i>Solanum linnaeanum</i> Hepper & Jaeger (Solanaceae)	<i>Gratiana pallidula</i> (Boheman), <i>Leptinotarsa defecta</i> (Stål), <i>L. texana</i> Schaeffer
<i>Solanum longiconicum</i> Bitt. (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum lumholtzianum</i> Bartlett (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say), <i>L. texana</i> Schaeffer
<i>Solanum luteum</i> Mill. (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum lycopersicoides</i> Dun. (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum lycopersicum</i> L. (Solanaceae)	(see <i>Lycopersicon esculentum</i> Mill.)
<i>Solanum macrocarpon</i> L. (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum mammosum</i> L. (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum marginatum</i> L. f. (Solanaceae)	<i>Epitrix fasciata</i> Blatchley, <i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum marinasense</i> Vargas (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum mauritianum</i> Scop. (Solanaceae)	<i>Gratiana pallidula</i> (Boheman), <i>Leptinotarsa decemlineata</i> (Say), <i>L. texana</i> Schaeffer
<i>Solanum medians</i> Bitt. (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum megistacrolobum</i> Bitt. (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum melongena</i> L. (Solanaceae)	<i>Acalymma vittatum</i> (Fabricius), <i>Agroiconota bivittata</i> (Say), <i>Asphaera lustrans</i> (Crotch), <i>Chaetocnema confinis</i> Crotch, <i>C. denticulata</i> (Illiger), <i>C. obesa</i> LeConte, <i>C. quadricollis</i> Schwarz, <i>Charidotella sexpunctata</i> (Fabricius), <i>Chelymophra</i>

- cribraria* (Fabricius), *Diabrotica balteata* LeConte, *D. undecimpunctata* Mannerheim, *Disonycha glabrata* (Fabricius), *Epitrix brevis* Schwarz, *E. cucumeris* (Harris), *E. fasciata* Blatchley, *E. fuscata* Crotch, *E. hirtipennis* (Melsheimer), *E. similis* Gentner, *E. subcrinita* (LeConte), *E. tuberosa* Gentner, *Gratiana pallidula* (Boheman), *Lema daturaphila* Kogan & Goeden, *L. nigrovittata* (Guérin-Méneville), *Leptinotarsa decemlineata* (Say), *L. defecta* (Stål), *L. juncta* (Germar), *L. texana* Schaeffer, *L. undecimlineata* (Stål), *Phyllotreta striolata* (Fabricius), *Strabala ambulans* (Suffrian), *S. rufa* (Illiger), *Systema blanda* Melsheimer, *S. elongata* (Fabricius), *S. frontalis* (Fabricius)
- Solanum michoacanum* (Bitt.) Rydb. (Solanaceae) *Epitrix cucumeris* (Harris)
- Solanum microdontum* Bitt. (Solanaceae) *Epitrix cucumeris* (Harris), *Leptinotarsa decemlineata* (Say)
- Solanum mitlense* Dunal (Solanaceae) *Leptinotarsa undecimlineata* (Stål)
- Solanum mochiquense* Ochoa (Solanaceae) *Epitrix cucumeris* (Harris), *Leptinotarsa decemlineata* (Say)
- Solanum morelliforme* Bitt. & Muench (Solanaceae) *Leptinotarsa decemlineata* (Say)
- Solanum moscopanum* Hawkes (Solanaceae) *Epitrix cucumeris* (Harris), *Leptinotarsa decemlineata* (Say)
- Solanum multidissectum* Hawkes (Solanaceae) *Epitrix cucumeris* (Harris), *Leptinotarsa decemlineata* (Say)
- Solanum multi-interruptum* Bitt. (Solanaceae) *Epitrix cucumeris* (Harris), *Leptinotarsa decemlineata* (Say)
- Solanum neoantipoviczii* Buk. (Solanaceae) *Epitrix cucumeris* (Harris), *Leptinotarsa decemlineata* (Say)
- Solanum neocardenasii* Hawkes & Hjerting (Solanaceae) *Epitrix cucumeris* (Harris), *Leptinotarsa decemlineata* (Say)
- Solanum neorossii* Hawkes & Hjerting (Solanaceae) *Epitrix cucumeris* (Harris), *Leptinotarsa decemlineata* (Say)
- Solanum nigrescens* M. Martens & Galeotti (Solanaceae) *Epitrix fasciata* Blatchley, *Zygogramma piceicollis* (Stål), *Z. signatipennis* (Stål)
- Solanum nigrum* L. (Solanaceae) *Disonycha glabrata* (Fabricius), *Epitrix hirtipennis* (Melsheimer), *Gratiana pallidula* (Boheman), *Leptinotarsa decemlineata* (Say), *Psylliodes affinis* (Paykull) [See also *Solanum americanum* P. Mill. In earlier literature, *S. americanum* was frequently misidentified as *S. nigrum*. Numerous beetles have been reported in association with *S. nigrum*. If these records are from North America, we have generally interpreted the true identity of the plants to be *S. americanum*.]
- Solanum nitidibaccatum* Bitter (Solanaceae) *Leptinotarsa decemlineata* (Say)
- Solanum nodiflorum* Jacq. (Solanaceae) *Epitrix fasciata* Blatchley, *Lema balteata* LeConte, *Leptinotarsa haldemani* (Rogers)
- Solanum oblongum* Ruiz & Pav. (Solanaceae) *Leptinotarsa decemlineata* (Say)
- Solanum ochraceo-ferrugineum* (Dun.) Fern. (Solanaceae) *Leptinotarsa decemlineata* (Say), *L. undecimlineata* (Stål)
- Solanum ochranthum* Dunal (Solanaceae) *Epitrix cucumeris* (Harris), *Leptinotarsa decemlineata* (Say)
- Solanum okadae* Hawkes & Hjerting (Solanaceae) *Epitrix cucumeris* (Harris), *Leptinotarsa decemlineata* (Say)
- Solanum oplocense* Hawkes (Solanaceae) *Epitrix cucumeris* (Harris), *Leptinotarsa decemlineata* (Say)
- Solanum oxycarpum* Schiede (Solanaceae) *Epitrix cucumeris* (Harris), *Leptinotarsa decemlineata* (Say)
- Solanum pampasense* A. D. Hawkes (Solanaceae) *Epitrix cucumeris* (Harris), *Leptinotarsa decemlineata* (Say)
- Solanum panduriforme* E. Meyer ex Dunal (Solanaceae) *Gratiana pallidula* (Boheman), *Leptinotarsa defecta* (Stål), *L. texana* Schaeffer
- Solanum papita* Rydb. (Solanaceae) *Epitrix cucumeris* (Harris), *Leptinotarsa decemlineata* (Say)
- Solanum pascoense* Ochoa (Solanaceae) *Leptinotarsa decemlineata* (Say)
- Solanum paucijugum* Bitter (Solanaceae) *Epitrix cucumeris* (Harris), *Leptinotarsa decemlineata* (Say)
- Solanum paucisectum* Ochoa (Solanaceae) *Leptinotarsa decemlineata* (Say)
- Solanum pennellii* Correll (Solanaceae) *Leptinotarsa decemlineata* (Say)

Leaf Beetles Listed by Plants

<i>Solanum phureja</i> Juz. & Buk. (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum pinnatisectum</i> Dunal (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum piurae</i> Bitt. (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum polyadenium</i> Greenman (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum polytrichon</i> Rydb. (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum pseudocapsicum</i> L. (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Lema trivittata</i> Say, <i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum purpureum</i> Dunal (Solanaceae)	<i>Epitrix cucumeris</i> (Harris)
<i>Solanum pyracanthum</i> Jacq. (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum quitoense</i> Lam. (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum radicans</i> L. f. (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum raphanifolium</i> Cárd. & Hawkes (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum reddickii</i> Buk. (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum reflexum</i> Schrank (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum rigescens</i> Jacq. (Solanaceae)	<i>Gratiana pallidula</i> (Boheman), <i>Leptinotarsa defecta</i> (Stål), <i>L. texana</i> Schaeffer
<i>Solanum robustum</i> H. L. Wendl. (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum rostratum</i> Dunal (Solanaceae)	<i>Diabrotica balteata</i> LeConte, <i>Epitrix cucumeris</i> (Harris), <i>E. fasciata</i> Blatchley, <i>E. fuscata</i> Crotch, <i>E. hirtipennis</i> (Melsheimer), <i>E. subcristata</i> (LeConte), <i>E. tuberosa</i> Gentner, <i>Gratiana pallidula</i> (Boheman), <i>Leptinotarsa decemlineata</i> (Say), <i>L. defecta</i> (Stål), <i>L. haldemani</i> (Rogers), <i>L. juncta</i> (Germar), <i>L. texana</i> Schaeffer, <i>Systema blanda</i> Melsheimer, <i>Zygogramma piceicollis</i> (Stål)
<i>Solanum rudepannum</i> Dunal (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say), <i>L. undecimlineata</i> (Stål)
<i>Solanum sanctae-rosae</i> Hawkes (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum sandemanii</i> Hawkes (Solanaceae)	(see <i>Solanum tacnaense</i> Ochoa)
<i>Solanum santolallae</i> Vargas (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum saponaceum</i> Dunal (Solanaceae)	<i>Leptinotarsa undecimlineata</i> (Stål)
<i>Solanum sarrachoides</i> Sendt. (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say), <i>L. haldemani</i> (Rogers), <i>L. rubiginosa</i> (Rogers)
<i>Solanum scabrifolium</i> Ochoa (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum schenckii</i> Bitt. (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum seaforthianum</i> Andrews (Solanaceae)	<i>Plagiometriona clavata</i> (Fabricius)
<i>Solanum simplicifolium</i> Bitter (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum sisymbriifolium</i> Lam. (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum sitiens</i> Johnston (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum sodomium</i> L. (Solanaceae)	<i>Gratiana pallidula</i> (Boheman)
<i>Solanum sogarandinum</i> Ochoa (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum sparsipilum</i> (Bitter) Vavilov (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum spegazzinii</i> Bitt. (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum stenophyllidium</i> Bitt. (Solanaceae)	<i>Epitrix cucumeris</i> (Harris)
<i>Solanum stenotomum</i> Juz. & Buk. (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum stoloniferum</i> Schltd. (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum stramonifolium</i> Dunal (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)

<i>Solanum subinerme</i> Jacq. (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum sucrense</i> Hawkes (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum tacnaense</i> Ochoa (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum tarijense</i> Hawkes (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum tomatillo</i> (Remy) Philippi f. (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum tomentosum</i> L. (Solanaceae)	<i>Gratiana pallidula</i> (Boheman)
<i>Solanum toralapanum</i> Cárđ. & Hawkes (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum torvum</i> Sw. (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>E. fasciata</i> Blatchley, <i>Leptinotarsa decemlineata</i> (Say), <i>L. texana</i> Schaeffer, <i>L. undecimlineata</i> (Stål)
<i>Solanum tridynamum</i> Dunal (Solanaceae)	<i>Leptinotarsa defecta</i> (Stål)
<i>Solanum trifidum</i> Correll (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum triflorum</i> Nutt. (Solanaceae)	<i>Epitrix subcrinita</i> (LeConte), <i>E. tubaris</i> Gentner, <i>Leptinotarsa decemlineata</i> (Say), <i>Systema blanda</i> Melsheimer
<i>Solanum triquetrum</i> Cav. (Solanaceae)	<i>Epitrix fasciata</i> Blatchley, <i>Lema opulenta</i> Gemminger & Harold, <i>Leptinotarsa decemlineata</i> (Say), <i>Parorectis callosa</i> (Boheman)
<i>Solanum tuberosum</i> L. (Solanaceae)	<i>Acalymma trivittatum</i> (Melsheimer), <i>A. vittatum</i> (Fabricius), <i>Agroiconota bivittata</i> (Say), <i>Altica chalybea</i> Illiger, <i>Bromius obscurus</i> (Linnaeus), <i>Caligrapha californica</i> Linell, <i>Capraita subvittata</i> (Horn), <i>Cassida nebulosa</i> Linnaeus, <i>Cerotoma trifurcata</i> (Forster), <i>Chaetocnema confinis</i> Crotch, <i>C. ectypa</i> Horn, <i>C. pulicaria</i> Melsheimer, <i>C. subconvexa</i> White, <i>Charidotella sexpunctata</i> (Fabricius), <i>Chrysochus auratus</i> (Fabricius), <i>C. cobaltinus</i> LeConte, <i>Colaspis brunnea</i> (Fabricius), <i>C. hesperia</i> Blake, <i>Cryptocephalus venustus</i> Fabricius, <i>Cyclotrypema furcata</i> (Olivier), <i>Deloyala guttata</i> (Olivier), <i>Diabrotica balteata</i> LeConte, <i>D. tibialis</i> Jacoby, <i>D. undecimpunctata</i> Mannerheim, <i>D. virgifera</i> LeConte, <i>Diachus auratus</i> (Fabricius), <i>Dibolia borealis</i> Chevrolat, <i>Disonycha arizonae</i> Casey, <i>D. collata</i> (Fabricius), <i>D. discoidea</i> (Fabricius), <i>D. glabrata</i> (Fabricius), <i>D. triangularis</i> (Say), <i>D. xanthomelas</i> (Dalman), <i>Donacia caerulea</i> Olivier, <i>Entomoscelis americana</i> Brown, <i>Epitrix brevis</i> Schwarz, <i>E. cucumeris</i> (Harris), <i>E. fasciata</i> Blatchley, <i>E. fuscula</i> Crotch, <i>E. hirtipennis</i> (Melsheimer), <i>E. similis</i> Gentner, <i>E. subcrinita</i> (LeConte), <i>E. tubaris</i> Gentner, <i>Galeruca externa</i> Say, <i>Galerucella nymphaeae</i> (Linnaeus), <i>Glyphuroplata pluto</i> (Newman), <i>Glyptina cerina</i> (LeConte), <i>Gratiana pallidula</i> (Boheman), <i>Lema daturaphila</i> Kogan & Goeden, <i>L. nigrovittata</i> (Guérin-Méneville), <i>L. opulenta</i> Gemminger & Harold, <i>L. solani</i> Fabricius, <i>L. trivittata</i> Say, <i>Leptinotarsa decemlineata</i> (Say), <i>L. defecta</i> (Stål), <i>L. haldemani</i> (Rogers), <i>L. juncta</i> (Germar), <i>L. lineolata</i> (Stål), <i>L. rubiginosa</i> (Rogers), <i>L. texana</i> Schaeffer, <i>L. undecimlineata</i> (Stål), <i>Lilioceris lili</i> (Scopoli), <i>Longitarsus oregonensis</i> Horn, <i>Microtheca ochroloma</i> Stål, <i>Monoxia angularis</i> (LeConte), <i>Myochrous cyphus</i> Blake, <i>Omophoita cyanipennis</i> (Fabricius), <i>Orsodacne atra</i> (Ahrens), <i>Oulema palustris</i> (Blatchley), <i>Paria canella</i> (Fabricius), <i>Phyllotreta albionica</i> (LeConte), <i>P. cruciferae</i> (Goeze), <i>P. decipiens</i> Horn, <i>P. lewisii</i> (Crotch), <i>P. oregonensis</i> (Crotch), <i>P. pusilla</i> Horn, <i>P. robusta</i> LeConte, <i>P. striolata</i> (Fabricius), <i>P. zimmermanni</i> (Crotch), <i>Plagiometriona clavata</i> (Fabricius), <i>Plateumaris nitida</i> (Germar), <i>P. rufa</i> (Say), <i>Psylliodes affinis</i> (Paykull), <i>P. napi</i> (Fabricius), <i>P. punctulatus</i> Melsheimer, <i>Scelolyperus cyanellus</i> (LeConte), <i>Strabala rufa</i> (Illiger), <i>Sumitrosis inaequalis</i> (Weber), <i>Systema blanda</i> Melsheimer, <i>S. elongata</i> (Fabricius), <i>S. frontalis</i> (Fabricius), <i>S. hudsonias</i> (Forster), <i>S. mitis</i> (LeConte), <i>Tricholochmaea cavicollis</i> (LeConte), <i>Trirhabda borealis</i> Blake, <i>T. canadensis</i> (Kirby), <i>Typophorus nigrinus</i> (Fabricius), <i>Xanthogaleruca luteola</i> (Müller), <i>Zygogramma exclamationis</i> (Fabricius)
<i>Solanum tuquerrense</i> Hawkes (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum vallis-mexici</i> Juz. (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum venturii</i> Hawkes & Hjerting (Solanaceae)	<i>Epitrix cucumeris</i> (Harris)
<i>Solanum verbascifolium</i> Kunth (Solanaceae)	<i>Epitrix solani</i> (Blatchley)
<i>Solanum vernei</i> Bitter & Wittm. (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum verrucosum</i> Schlecht. (Solanaceae)	<i>Epitrix cucumeris</i> (Harris), <i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum viarum</i> Dunal (Solanaceae)	(see <i>Solanum reflexum</i> Schrank)
<i>Solanum villosum</i> Mill. (Solanaceae)	<i>Epitrix subcrinita</i> (LeConte), <i>E. tubaris</i> Gentner, <i>Leptinotarsa decemlineata</i> (Say), <i>L. haldemani</i> (Rogers)
<i>Solanum violaceimarmoratum</i> Bitter (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)
<i>Solanum warszewiezi</i> Lambertye (Solanaceae)	<i>Leptinotarsa decemlineata</i> (Say)

Leaf Beetles Listed by Plants

- Solanum wittmackii* Bitt. (Solanaceae) *Leptinotarsa decemlineata* (Say)
- Solanum xanti* A. Gray (Solanaceae) *Coptocycla texana* (Schaeffer), *Gratiana pallidula* (Boheman), *Leptinotarsa decemlineata* (Say)
- Solanum yungasense* Hawkes (Solanaceae) *Leptinotarsa decemlineata* (Say)
- Solanum* sp. *Cassida rubiginosa* Müller, *Cerataltica insolita* (Melsheimer), *Lema circumvittata* Clark, *L. melanofrons* White, *Pachybrachis signatifrons* Mannerheim, *Parorectis sublaevis* (Barber), *Scelolyperus laticeps* (Horn)
- Solidago altissima* L. (Asteraceae) *Acalymma vittatum* (Fabricius), *Brachypnoea margaretae* (Schultz), *Diabrotica longicornis* (Say), *D. undecimpunctata* Mannerheim, *Diachus auratus* (Fabricius), *Disonycha latifrons* Schaeffer, *Epitrix fasciata* Blatchley, *Exema canadensis* Pierce, *Metrioidea popenoei* (Blake), *Microrhopala vittata* (Fabricius), *Ophraella arctica* LeSage, *O. artemisiae* Futuyma, *O. bilineata* (Kirby), *O. communis* LeSage, *O. conferta* (LeConte), *O. cribrata* (LeConte), *O. pilosa* LeSage, *O. sexvittata* (LeConte), *Paria thoracica* (Melsheimer), *Systema hudsonias* (Forster), *Trirhabda adela* Blake, *T. borealis* Blake, *T. canadensis* (Kirby), *T. flavolimbata* (Mannerheim), *T. virgata* LeConte
- Solidago arguta* Ait. (Asteraceae) *Ophraella americana* (Fabricius)
- Solidago bicolor* L. (Asteraceae) *Diabrotica undecimpunctata* Mannerheim, *Ophraella arctica* LeSage, *O. artemisiae* Futuyma, *O. communis* LeSage, *O. conferta* (LeConte), *O. cribrata* (LeConte), *O. notulata* (Fabricius), *O. pilosa* LeSage
- Solidago caesia* L. (Asteraceae) *Microrhopala xerene* (Newman)
- Solidago californica* Nutt. (Asteraceae) *Microrhopala rubrolineata* (Mannerheim)
- Solidago canadensis* L. (Asteraceae) *Acalymma vittatum* (Fabricius), *Chaetocnema confinis* Crotch, *Diabrotica barberi* Smith & Lawrence, *D. longicornis* (Say), *D. undecimpunctata* Mannerheim, *D. virgifera* LeConte, *Diachus auratus* (Fabricius), *Disonycha latifrons* Schaeffer, *D. politula* Horn, *Exema canadensis* Pierce, *Microrhopala vittata* (Fabricius), *M. xerene* (Newman), *Ophraella conferta* (LeConte), *O. cribrata* (LeConte), *O. sexvittata* (LeConte), *Paria thoracica* (Melsheimer), *Sumitrosis inaequalis* (Weber), *Trirhabda adela* Blake, *T. borealis* Blake, *T. canadensis* (Kirby), *T. convergens* LeConte, *T. virgata* LeConte
- Solidago drummondii* J. Torr. & A. Gray (Asteraceae) *Microrhopala excavata* (Olivier)
- Solidago gigantea* Ait. (Asteraceae) *Brachypnoea margaretae* (Schultz), *Diabrotica undecimpunctata* Mannerheim, *Exema canadensis* Pierce, *Microrhopala vittata* (Fabricius), *Ophraella conferta* (LeConte), *O. sexvittata* (LeConte), *Paria thoracica* (Melsheimer), *Sumitrosis inaequalis* (Weber), *Systema gracilentia* Blake, *Trirhabda borealis* Blake, *T. canadensis* (Kirby), *T. virgata* LeConte
- Solidago juncea* Ait. (Asteraceae) *Brachypnoea margaretae* (Schultz), *Diabrotica cristata* (Harris), *D. longicornis* (Say), *Epitrix fasciata* Blatchley, *Exema canadensis* Pierce, *Microrhopala vittata* (Fabricius), *M. xerene* (Newman), *Ophraella arctica* LeSage, *O. conferta* (LeConte), *O. cribrata* (LeConte), *Paria thoracica* (Melsheimer), *Trirhabda borealis* Blake, *T. virgata* LeConte
- Solidago laevigata* Bebb (Asteraceae) (see *Solidago sempervirens* L.)
- Solidago lanceolata* L. (Asteraceae) (see *Euthamia graminifolia* (L.) Nutt.)
- Solidago latifolia* L. (Asteraceae) *Baliosus nervosus* (Panzer)
- Solidago leavenworthii* J. Torr. & A. Gray (Asteraceae) *Ophraella sexvittata* (LeConte)
- Solidago maritima* Rouy (Asteraceae) *Erynephala maritima* (LeConte)
- Solidago missouriensis* Nutt. (Asteraceae) *Diabrotica barberi* Smith & Lawrence, *D. cristata* (Harris), *D. undecimpunctata* Mannerheim, *Microrhopala vittata* (Fabricius), *Trirhabda borealis* Blake, *T. canadensis* (Kirby), *T. convergens* LeConte, *T. virgata* LeConte
- Solidago mollis* Bartl. (Asteraceae) *Microrhopala vittata* (Fabricius)
- Solidago multiradiata* Ait. (Asteraceae) *Ophraella arctica* LeSage, *O. conferta* (LeConte), *O. cribrata* (LeConte)
- Solidago neglecta* T. & G. (Asteraceae) *Exema canadensis* Pierce
- Solidago nemoralis* Ait. (Asteraceae) *Diabrotica cristata* (Harris), *D. longicornis* (Say), *D. undecimpunctata* Mannerheim, *Ophraella cribrata* (LeConte), *O. sexvittata* (LeConte)
- Solidago petiolaris* Ait. (Asteraceae) *Acalymma vittatum* (Fabricius), *Diabrotica undecimpunctata* Mannerheim, *Microrhopala excavata* (Olivier)
- Solidago pinetorum* Small (Asteraceae) *Ophraella cribrata* (LeConte)
- Solidago radula* Nutt. (Asteraceae) *Luperaltica nigripalpis* (LeConte)
- Solidago rigida* L. (Asteraceae) *Blepharida rhois* (Forster), *Diabrotica longicornis* (Say), *D. undecimpunctata* Mannerheim, *Luperaltica nigripalpis* (LeConte), *Microrhopala laetula* LeConte, *M. vittata* (Fabricius), *Systema hudsonias* (Forster)

- Solidago rugosa* P. Mill. (Asteraceae) *Acalymma vittatum* (Fabricius), *Brachypnoea margaretae* (Schultz), *Exema canadensis* Pierce, *Microrhopala vittata* (Fabricius), *Ophraella americana* (Fabricius), *O. conferta* (LeConte), *O. cribrata* (LeConte), *Paria thoracica* (Melsheimer), *Trirhabda borealis* Blake, *T. canadensis* (Kirby), *T. virgata* LeConte
- Solidago sempervirens* L. (Asteraceae) *Microrhopala vittata* (Fabricius), *Trirhabda virgata* LeConte
- Solidago serotina* Retz. (Asteraceae) *Systema gracilentia* Blake
- Solidago squarrosa* Muhl. (Asteraceae) *Disonycha alternata* (Illiger), *D. latifrons* Schaeffer, *Ophraella cribrata* (LeConte), *O. pilosa* LeSage
- Solidago uliginosa* Nutt. (Asteraceae) *Exema canadensis* Pierce, *Microrhopala vittata* (Fabricius)
- Solidago ulmifolia* Muhl. ex Willd. (Asteraceae) *Microrhopala excavata* (Olivier), *M. vittata* (Fabricius), *Sumitrosis inaequalis* (Weber)
- Solidago virga-aurea* L. (Asteraceae) *Exema canadensis* Pierce
- Solidago* sp. (Asteraceae) *Altica bimarginata* Say, *A. corni* Woods, *A. ignita* Illiger, *A. marevagans* Horn, *A. subplicata* LeConte, *Brachypnoea convexa* (Say), *B. puncticollis* (Say), *Calligrapha californica* Linell, *C. spiraeae* (Say), *Capraita subvittata* (Horn), *Chaetocnema minuta* Melsheimer, *Chelymorpha cassidea* (Fabricius), *Colaspis brunnea* (Fabricius), *Crepidodera nana* (Say), *Cryptocephalus obsoletus* Germar, *Deloyala guttata* (Olivier), *Disonycha discoidea* (Fabricius), *D. fumata* (LeConte), *Distigmoptera borealis* Blake, *Donacia caerulea* Olivier, *D. subtilis* Kunze, *Epitrix cucumeris* (Harris), *E. hirtipennis* (Melsheimer), *Erynephala puncticollis* (Say), *Exema dispar* Lacordaire, *E. gibber* (Fabricius), *E. neglecta* Blatchley, *Glyptina leptosoma* Blatchley, *Labidomera clivicollis* (Kirby), *Lema daturaphila* Kogan & Goeden, *Lexiphanes saponatus* (Fabricius), *Longitarsus acutipennis* Blatchley, *L. solidaginis* Horn, *Microrhopala erebus* (Newman), *Monoxia grisea* Blake, *M. inornata* Blake, *Neochlamisus comptoniae* (Brown), *N. eubati* (Brown), *N. gibbosus* (Fabricius), *Neolema sexpunctata* (Olivier), *Odontota mundula* (Sanderson), *O. notata* (Olivier), *O. scapularis* (Olivier), *Pachybrachis peccans* Suffrian, *P. trinitatus* (Melsheimer), *Paria aterrima* (Olivier), *P. canella* (Fabricius), *P. quadriguttata* LeConte, *P. sellata* (Horn), *Phyllotreta decipiens* Horn, *Plagioderma versicolora* (Laicharting), *Plateumaris pusilla* (Say), *Psylliodes napi* (Fabricius), *Systema blanda* Melsheimer, *S. frontalis* (Fabricius), *Tricholochmaea decora* (Say), *T. tuberculata* (Say), *Trirhabda attenuata* (Say), *T. bacharidis* (Weber), *Xanthonia serrata* Staines & Weisman, *Zygogramma suturalis* (Fabricius)
- Sonchus oleraceus* L. (Asteraceae) *Leptinotarsa decemlineata* (Say)
- Sonchus* sp. (Asteraceae) *Cassida rubiginosa* Müller, *Diabrotica undecimpunctata* Mannerheim, *Physonota unipunctata* (Say)
- Sophia* sp. (Bombacaceae) *Psylliodes punctulatus* Melsheimer
- Sophora japonica* L. (Fabaceae) *Odontota dorsalis* (Thunberg)
- Sorbus americana* Marsh. (Rosaceae) *Altica ulmi* Woods
- Sorbus sitchensis* M. Roem. (Rosaceae) *Altica ambiens* LeConte, *A. prasina* LeConte
- Sorbus* sp. (Rosaceae) *Calligrapha scalaris* (LeConte), *Paria canella* (Fabricius), *P. fragariae* Wilcox, *P. quadrinotata* (Say)
- Sorghastrum nutans* (L.) Nash (Poaceae) *Diabrotica cristata* (Harris)
- Sorghastrum setosum* (Griseb.) Hitchc. (Poaceae) *Chalepus sanguinicollis* (Linnaeus)
- Sorghastrum* sp. (Poaceae) *Chaetocnema ectypa* Horn
- Sorghum* (see *Sorghum*)
- Sorghum arundinaceum* (Desv.) Stapf. (Poaceae) *Chaetocnema ectypa* Horn
- Sorghum bicolor* (L.) Moench (Poaceae) *Chaetocnema denticulata* (Illiger), *C. ectypa* Horn, *C. pulicaria* Melsheimer, *Diabrotica balteata* LeConte, *D. longicornis* (Say), *D. undecimpunctata* Mannerheim, *D. virgifera* LeConte, *Monoxia elegans* Blake, *Myochrous denticollis* (Say), *Oulema melanopus* (Linnaeus), *Systema blanda* Melsheimer
- Sorghum caffrorum* (Retz.) Beauv. (Poaceae) (see *Sorghum bicolor* (L.) Moench)
- Sorghum durra* (Forssk.) Stapf (Poaceae) *Chaetocnema ectypa* Horn
- Sorghum halepense* (L.) Pers. (Poaceae) *Acalymma vittatum* (Fabricius), *Brachypnoea clypealis* (Horn), *Chaetocnema denticulata* (Illiger), *C. ectypa* Horn, *C. pulicaria* Melsheimer, *Charidotella sexpunctata* (Fabricius), *Colaspis brunnea* (Fabricius), *Deloyala guttata* (Olivier), *Diabrotica undecimpunctata* Mannerheim, *Oulema melanopus* (Linnaeus), *O. texana* (Crotch)
- Sorghum sudanense* (Piper) Stapf (Poaceae) *Chaetocnema concinna* (Marsham), *C. confinis* Crotch, *C. ectypa* Horn, *C. pulicaria* Melsheimer, *Diabrotica longicornis* (Say), *D. undecimpunctata* Mannerheim, *D. virgifera* LeConte, *Oulema melanopus* (Linnaeus)
- Sorghum vulgare* Pers. (Poaceae) (see *Sorghum bicolor* (L.) Moench)
- Sorghum vulgare* var. *durra* (Forssk.) Hubb. & Rehder (Poaceae) .. (see *Sorghum durra* (Forssk.) Stapf)

Leaf Beetles Listed by Plants

- Sorghum vulgare* var. *saccharatum* (L.) Boerl. (Poaceae) (see *Sorghum bicolor* (L.) Moench)
- Sorghum* sp. (Poaceae) *Agroiconota bivittata* (Say), *Altica fo-liaceae* LeConte, *A. torquata* LeConte, *Cerotoma atrofasciata* Jacoby, *Chrysochus auratus* (Fabricius), *Cryptocephalus basalis* Suffrian, *Disonycha fumata* (LeConte), *D. glabrata* (Fabricius), *D. triangularis* (Say), *Lema daturaphila* Kogan & Goeden, *Phyllotreta striolata* (Fabricius), *Physonota alutacea* Boheman, *Zygogramma signatipennis* (Stål)
- Sorrel (see *Rumex*)
- Sour cherry (see *Prunus cerasus* L.)
- Sour dock (see *Rumex*)
- Sour gum (see *Nyssa sylvatica* Marsh.)
- Sourwood (see *Oxydendrum arboreum* (L.) DC.)
- Southern chess (see *Bromus catharticus* Vahl.)
- Southern pea (see *Vigna unguiculata* Clav.)
- Soybean (see *Glycine max* (L.) Merr.)
- Spanish moss (see *Tillandsia usneoides* (L.) L.)
- Spanishmoss (see *Tillandsia usneoides* (L.) L.)
- Spanish needles (see *Bidens bipinnata* L.)
- Sparganium americanum* Nutt. (Sparganiaceae) *Donacia assimilis* Lacordaire, *D. fulgens* LeConte, *D. subtilis* Kunze
- Sparganium androcladum* (Engelm.) Morong. (Sparganiaceae) *Donacia subtilis* Kunze, *Plateumaris nitida* (Germar)
- Sparganium angustifolium* Michx. (Sparganiaceae) *Donacia fulgens* LeConte, *D. hirticollis* Kirby, *D. subtilis* Kunze
- Sparganium chlorocarpum* Rydb. (Sparganiaceae) (see *Sparganium erectum* L.)
- Sparganium diversifolium* Graeb. (Sparganiaceae) (see *Sparganium erectum* L.)
- Sparganium erectum* L. (Sparganiaceae) *Donacia confluenta* Say, *D. hirticollis* Kirby, *D. subtilis* Kunze
- Sparganium eurycarpum* Englm. (Sparganiaceae) *Disonycha procera* Casey, *Donacia subtilis* Kunze, *D. tuberculifrons* Schaeffer, *Neogalerucella pusilla* (Duftschmid)
- Sparganium* sp. (Sparganiaceae) *Donacia biimpressa* Melsheimer, *D. caerulea* Olivier, *D. parvidens* Schaeffer, *D. proxima* Kirby, *D. rugosa* LeConte, *D. vicina* Lacordaire, *Neohaemonia flagellata* Askevold, *N. melsheimeri* (Lacordaire), *Plateumaris metallica* (Ahrens), *P. pusilla* (Say), *P. robusta* (Schaeffer)
- Spartina michauxiana* Hitchcock (Poaceae) (see *Spartina pectinata* Bosc. ex Link)
- Spartina pectinata* Bosc. ex Link (Poaceae) *Rhabdopterus picipes* (Olivier)
- Spartina* sp. (Poaceae) *Altica aeneola* Blatchley, *Chaetocnema protensa* LeConte, *Labidomera clivicollis* (Kirby), *Monoxia sordida* (LeConte), *Neocrepidodera pallida* (Fall), *N. robusta* (LeConte), *Stenispa metallica* (Fabricius)
- Spatterdock (see *Nuphar lutea* (L.) Sm.)
- Spearmint (see *Mentha spicata* L.)
- Speedwell (see *Veronica*)
- Spelt (see *Triticum spelta* L.)
- Speltz (see *Triticum spelta* L.)
- Spergula arvensis* L. (Caryophyllaceae) *Cassida azurea* Fabricius, *C. flaveola* Thunberg, *C. nobilis* Linnaeus, *Psylliodes cucullatus* (Illiger)
- Spermacoce glabra* Michx. (Rubiaceae) *Systema frontalis* (Fabricius)
- Spermacoce* sp. (Rubiaceae) *Strabala acuminata* Blake
- Sphaeralcea ambigua* A. Gray (Malvaceae) *Androlyperus maculatus* LeConte, *Pteleon brevicornis* (Jacoby), *Stenopodius lateralis* (Schaeffer)
- Sphaeralcea angustifolia* (Cav.) Don. (Malvaceae) *Calligrapha dislocata* (Rogers), *C. serpentina* (Rogers), *Chaetocnema quadricollis* Schwarz
- Sphaeralcea cuspidata* (A. Gray) Britton (Malvaceae) *Metaparia viridimicans* (Horn)
- Sphaeralcea emoryi* J. Torr. ex A. Gray (Malvaceae) *Stenopodius lateralis* (Schaeffer), *S. texanus* Schaeffer
- Sphaeralcea grossulariifolia* (Hook. & Arn.) Rydb. (Malvaceae) . . . *Stenopodius flavidus* Horn
- Sphaeralcea hastulata* Gray (Malvaceae) *Chaetocnema quadricollis* Schwarz
- Sphaeralcea incana* Torr. ex Gray (Malvaceae) *Calligrapha dislocata* (Rogers), *C. serpentina* (Rogers)
- Sphaeralcea lindheimeri* A. Gray (Malvaceae) *Stenopodius texanus* Schaeffer

- Sphaeralcea munroana* (Dougl. ex Lindl.) Spach ex A. Gray (Malvaceae) . . . *Calligrapha serpentina* (Rogers)
- Sphaeralcea orcuttii* Rose (Malvaceae) . . . *Pteleon brevicornis* (Jacoby), *Stenopodius flavidus* Horn, *S. lateralis* (Schaeffer)
- Sphaeralcea rosacea* Munz. & I. M. Johnst. (Malvaceae) . . . *Glyptoscelis squamulata* Crotch
- Sphaeralcea* sp. (Malvaceae) . . . *Crepidodera nana* (Say), *Diabrotica virgifera* LeConte, *Phaedon purpureus* (Linell), *Saxinis sonorensis* Jacoby, *Stenopodius insularis* Blaisdell, *S. martini* Blaisdell, *Triarius melanolomatus* (Blake), *Zygogramma malvae* (Stål)
- Sphagnum fuscum* (Schimp.) Klinggr. (Sphagnaceae) . . . *Phyllotreta striolata* (Fabricius)
- Sphagnum* sp. (Sphagnaceae) . . . *Phyllotreta conjuncta* Gentner, *P. zimmermanni* (Crotch)
- Sphagnum moss . . . (see *Sphagnum*)
- Spicebush . . . (see *Lindera benzoin* (L.) Blume)
- Spiderwort . . . (see *Tradescantia*)
- Spiked maple . . . (see *Acer spicatum* Lam.)
- Spinach . . . (see *Spinacia oleracea* L.)
- Spinacia oleracea* L. (Chenopodiaceae) . . . *Cassida azurea* Fabricius, *Chaetocnema concinna* (Marsham), *C. densa* White, *C. denticulata* (Illiger), *Diabrotica balteata* LeConte, *D. undecimpunctata* Mannerheim, *Disonycha collata* (Fabricius), *D. discoidea* (Fabricius), *D. triangularis* (Say), *D. xanthomelas* (Dalman), *Entomoscelis americana* Brown, *Epitrix cucumeris* (Harris), *E. tuberosa* Gentner, *Erynephala puncticollis* (Say), *Phyllotreta cruciferae* (Goeze), *P. pusilla* Horn, *Psylliodes punctulatus* Melsheimer, *Systema elongata* (Fabricius)
- Spiny amaranth . . . (see *Amaranthus spinosus* L.)
- Spiny pigweed . . . (see *Amaranthus spinosus* L.)
- Spiraea . . . (see *Spiraea*)
- Spiraea alba* Du Roi (Rosaceae) . . . *Diabrotica cristata* (Harris), *Diachus auratus* (Fabricius), *Ophraella americana* (Fabricius), *Orsodacne atra* (Ahrens), *Pachybrachis peccans* Suffrian, *Rhabdopterus picipes* (Olivier), *Tricholochmaea cavicollis* (LeConte), *T. decora* (Say), *T. spiraeae* (Fall), *Trirhabda virgata* LeConte
- Spiraea aruncus* L. (Rosaceae) . . . (see *Aruncus sylvestris* Kostel ex Maxim.)
- Spiraea douglasii* Hook. (Rosaceae) . . . *Tricholochmaea spiraeophila* (Hatch & Beller)
- Spiraea latifolia* (Ait.) Borkh. (Rosaceae) . . . (see *Spiraea alba* Du Roi)
- Spiraea salicifolia* L. (Rosaceae) . . . *Brachypnoea puncticollis* (Say), *Diachus auratus* (Fabricius), *Tricholochmaea spiraeae* (Fall)
- Spiraea tomentosa* L. (Rosaceae) . . . *Systema frontalis* (Fabricius)
- Spiraea* sp. (Rosaceae) . . . *Babia quadriguttata* (Olivier), *Calligrapha philadelphica* (Linnaeus), *C. spiraeae* (Say), *Crepidodera nana* (Say), *Cryptocephalus mutabilis* Melsheimer, *C. venustus* Fabricius, *Diabrotica undecimpunctata* Mannerheim, *Disonycha xanthomelas* (Dalman), *Pachybrachis viduatus* (Fabricius), *Rhabdopterus deceptor* Barber, *Syneta albida* LeConte
- Spirea . . . (see *Spiraea*)
- Spondias mombin* L. (Anacardiaceae) . . . *Cryptocephalus trizonatus* Suffrian
- Sporobolus airoides* (J. Torr.) J. Torr. (Poaceae) . . . *Chaetocnema ectypa* Horn, *C. pulicaria* Melsheimer
- Sporobolus wrightii* Munro ex Scribn. (Poaceae) . . . *Metaparia opacicollis* (Horn)
- Sporobolus* sp. (Poaceae) . . . *Anisostena perspicua* (Horn)
- Spotted crane's-bill . . . (see *Geranium maculatum* L.)
- Spreading dogbane . . . (see *Apocynum androsaemifolium* L.)
- Spruce . . . (see *Picea*)
- Spurge . . . (see *Euphorbia*)
- Squash . . . (see *Cucurbita*)
- Stachys albens* A. Gray (Lamiaceae) . . . *Phyllotreta viridipennis* (LeConte)
- Stachys bullata* Benth. (Lamiaceae) . . . *Phyllotreta luperina* LeConte, *P. nigripes* Horn
- Stachys palustris* L. (Lamiaceae) . . . *Neogalerucella pusilla* (Duftschmid)
- Stachys tenuifolia* Willd. (Lamiaceae) . . . *Capraita thymoides* (Crotch)
- Stachys* sp. (Lamiaceae) . . . *Chrysolina fastuosa* (Scopoli), *Phyllotreta leechi* Blake
- Stachytarpheta indica* (L.) Vahl. (Verbenaceae) . . . *Omophoita cyanipennis* (Fabricius)
- Stachytarpheta jamaicensis* (L.) Vahl. (Verbenaceae) . . . (see *Stachytarpheta indica* (L.) Vahl.)
- Staghorn sumach . . . (see *Rhus typhina* L.)

Leaf Beetles Listed by Plants

<i>Staphylea trifolia</i> L. (Staphyleaceae)	<i>Scelolyperus liriophilus</i> Wilcox
<i>Staphylea</i> sp. (Staphyleaceae)	<i>Chrysolina staphylaea</i> (Linnaeus)
<i>Stellaria graminea</i> L. (Caryophyllaceae)	<i>Cassida flaveola</i> Thunberg
<i>Stellaria holostea</i> L. (Caryophyllaceae)	<i>Cassida flaveola</i> Thunberg
<i>Stellaria media</i> (L.) Vill. (Caryophyllaceae)	<i>Cassida azurea</i> Fabricius, <i>C. flaveola</i> Thunberg, <i>C. nobilis</i> Linnaeus, <i>Diabrotica balteata</i> LeConte, <i>Disonycha collata</i> (Fabricius), <i>D. xanthomelas</i> (Dalman), <i>Epitrix fasciata</i> Blatchley
<i>Stellaria nemorum</i> L. (Caryophyllaceae)	<i>Cassida flaveola</i> Thunberg
<i>Stellaria</i> sp. (Caryophyllaceae)	<i>Chrysolina subsulcata</i> (Mannerheim), <i>Disonycha triangularis</i> (Say), <i>Psylliodes punctulatus</i> Melsheimer
<i>Sterculia diversifolia</i> Boerl. & Koorders (Sterculiaceae)	<i>Pachybrachis femoratus</i> (Olivier)
<i>Stigmaphyllon megacarpum</i> (Vell. Conc.) Griseb. (Malpighiaceae)	<i>Cryptocephalus nigrocinctus</i> Suffrian
<i>Stigmaphyllon tomentosum</i> (Desf.) Ndz. (Malpighiaceae)	(see <i>Stigmaphyllon megacarpum</i> (Vell. Conc.) Griseb.)
<i>Stillingia sylvatica</i> L. (Euphorbiaceae)	<i>Cryptocephalus bispinus</i> Suffrian
Stinging nettle	(see <i>Urtica</i>)
<i>Stipa comata</i> Trin. & Rupr. (Poaceae)	<i>Distigmoptera borealis</i> Blake
<i>Stizolobium</i> sp. (Fabaceae)	(see <i>Mucuna</i>)
Stock	(see <i>Matthiola incana</i> (L.) R. Br.)
Strawberry	(see <i>Fragaria</i>)
String bean	(see <i>Phaseolus vulgaris</i> L.)
Stringless bean	(see <i>Phaseolus vulgaris</i> L.)
<i>Strophostyles helvula</i> (L.) Ell. (Fabaceae)	<i>Cerotoma trifurcata</i> (Forster), <i>Exema neglecta</i> Blatchley, <i>Sumitrosis ancoroides</i> (Schaeffer)
<i>Strophostyles leiosperma</i> (Torr. & A. Gray) Piper (Fabaceae)	<i>Cerotoma trifurcata</i> (Forster)
<i>Strophostyles umbellata</i> (Muhl. ex Willd.) N. L. Britt. (Fabaceae)	<i>Sumitrosis ancoroides</i> (Schaeffer)
<i>Strophostyles</i> sp. (Fabaceae)	<i>Sumitrosis pallescens</i> (Baly), <i>Xenochalepus omogerus</i> (Crotch)
<i>Stylisma pickeringii</i> (Torr. ex M. A. Curtis) Gray (Convolvulaceae)	<i>Strongylocassis atripes</i> (LeConte)
<i>Stylosanthes biflora</i> (L.) B.S.P. (Fabaceae)	<i>Sumitrosis ancoroides</i> (Schaeffer)
<i>Suaeda depressa</i> (Pursh) S. Wats. (Chenopodiaceae)	<i>Erynephala puncticollis</i> (Say)
<i>Suaeda fruticosa</i> Forsskal ex J. F. Gmel. (Chenopodiaceae)	<i>Monoxia sordida</i> (LeConte)
<i>Suaeda linearis</i> (Elliott) Moq. (Chenopodiaceae)	<i>Erynephala maritima</i> (LeConte), <i>E. puncticollis</i> (Say)
<i>Suaeda torreyana</i> S. Watson (Chenopodiaceae)	<i>Erynephala puncticollis</i> (Say), <i>Monoxia sordida</i> (LeConte)
<i>Suaeda</i> sp. (Chenopodiaceae)	<i>Diplacaspis prosternalis</i> (Schaeffer)
<i>Succisa praemorsa</i> (Gilib.) Asch. (Dipsacaceae)	<i>Longitarsus luridus</i> (Scopoli)
<i>Succisa pratensis</i> Moench (Dipsacaceae)	<i>Longitarsus luridus</i> (Scopoli)
Sudan grass	(see <i>Sorghum sudanense</i> (Piper) Stapf)
Sudangrass	(see <i>Sorghum sudanense</i> (Piper) Stapf)
Sugar beet	(see <i>Beta vulgaris</i> L.)
Sugarcane	(see <i>Saccharum officinarum</i> L.)
Sugar cane	(see <i>Saccharum officinarum</i> L.)
Sumac	(see <i>Rhus</i>)
Sumach	(see <i>Rhus</i>)
Summer savory	(see <i>Satureja hortensis</i> L.)
Sunflower	(see <i>Helianthus</i>)
Surinamcherry	(see <i>Eugenia uniflora</i> L.)
Swamp blueberry	(see <i>Vaccinium corymbosum</i> L.)
Swamp cabbage	(see <i>Ipomoea</i> , <i>Sabal palmetto</i> (Walt.) Lodd. ex Schult. & Schult. f.)
Swamp milkweed	(see <i>Asclepias incarnata</i> L.)
Swamp smartweed	(see <i>Polygonum amphibium</i> L.)
Swede	(see <i>Brassica napus</i> L.)
Sweet alyssum	(see <i>Lobularia maritima</i> (L.) Desv.)
Sweet cherry	(see <i>Prunus avium</i> (L.) L.)
Sweetclover	(see <i>Melilotus</i>)
Sweet corn	(see <i>Zea mays</i> L.)

Sweet fern	(see <i>Comptonia peregrina</i> (L.) Coult.)
Sweet flag	(see <i>Acorus americanus</i> (Raf.) Raf.)
Sweetgum	(see <i>Liquidambar styraciflua</i> L.)
Sweet hickory	(see <i>Carya glabra</i> (Mill.) Sweet, <i>C. ovata</i> (Mill.) K. Koch)
Sweet pea	(<i>Lathyrus odoratus</i> L.)
Sweet potato	(see <i>Ipomoea batatas</i> (L.) Lam.)
Swiss chard	(see <i>Beta vulgaris</i> L.)
Switchgrass	(see <i>Panicum virgatum</i> L.)
Sycamore	(see <i>Platanus</i>)
<i>Symphoricarpos orbiculatus</i> Moench (Caprifoliaceae)	<i>Babia quadriguttata</i> (Olivier), <i>Capraita circumdata</i> (Randall), <i>Cerataltica insolita</i> (Melsheimer)
<i>Symphoricarpos vulgaris</i> Michx. (Caprifoliaceae)	(see <i>Symphoricarpos orbiculatus</i> Moench)
<i>Symphoricarpos</i> sp. (Caprifoliaceae)	<i>Pachybrachis californicus</i> Fall
<i>Symphytotrichum anomalum</i> (Engelm.) Nesom (Asteraceae)	<i>Diabrotica undecimpunctata</i> Mannerheim, <i>Sumitrosis inaequalis</i> (Weber)
<i>Symphytotrichum ascendens</i> (Lindl.) Nesom (Asteraceae)	<i>Trirhabda convergens</i> LeConte
<i>Symphytotrichum chilensis</i> (Nees) Nesom (Asteraceae)	<i>Microrhopala xerene</i> (Newman), <i>Trirhabda flavolimbata</i> (Mannerheim)
<i>Symphytotrichum cordifolium</i> (L.) Nesom (Asteraceae)	<i>Microrhopala xerene</i> (Newman), <i>Ophraella pilosa</i> LeSage
<i>Symphytotrichum drummondii</i> (Lindl.) Nesom (Asteraceae)	<i>Acalymma vittatum</i> (Fabricius), <i>Diabrotica undecimpunctata</i> Mannerheim, <i>Ophraella americana</i> (Fabricius)
<i>Symphytotrichum ericoides</i> (L.) Nesom (Asteraceae)	<i>Acalymma vittatum</i> (Fabricius), <i>Anomoea flavokansiensis</i> Moldenke, <i>Chrysolina flavomarginata</i> (Say), <i>Colaspis brunnea</i> (Fabricius), <i>Diabrotica longicornis</i> (Say), <i>D. undecimpunctata</i> Mannerheim, <i>Paria aterrima</i> (Olivier), <i>P. canella</i> (Fabricius), <i>P. quadrinotata</i> (Say), <i>Trirhabda convergens</i> LeConte
<i>Symphytotrichum laeve</i> (L.) A. & D. Löve (Asteraceae)	<i>Ophraella pilosa</i> LeSage, <i>Trirhabda canadensis</i> (Kirby)
<i>Symphytotrichum lanceolatum</i> (Willd.) Nesom (Asteraceae)	<i>Baliosus nervosus</i> (Panzer), <i>Microrhopala xerene</i> (Newman), <i>Ophraella pilosa</i> LeSage, <i>Paria thoracica</i> (Melsheimer), <i>Sumitrosis inaequalis</i> (Weber)
<i>Symphytotrichum lateriflorum</i> (L.) A. & D. Löve (Asteraceae)	<i>Acalymma vittatum</i> (Fabricius), <i>Brachypnoea clypealis</i> (Horn), <i>Myochrous denticollis</i> (Say)
<i>Symphytotrichum lowrieianum</i> (Porter) Nesom (Asteraceae)	<i>Ophraella pilosa</i> LeSage
<i>Symphytotrichum novae-angliae</i> (L.) Nesom (Asteraceae)	<i>Baliosus nervosus</i> (Panzer), <i>Microrhopala xerene</i> (Newman), <i>Ophraella pilosa</i> LeSage, <i>Sumitrosis inaequalis</i> (Weber), <i>Systema hudsonias</i> (Forster), <i>Trirhabda flavolimbata</i> (Mannerheim)
<i>Symphytotrichum oblongifolium</i> (Nutt.) Nesom (Asteraceae)	<i>Systema hudsonias</i> (Forster)
<i>Symphytotrichum patens</i> (Ait.) Nesom (Asteraceae)	<i>Diabrotica undecimpunctata</i> Mannerheim, <i>Microrhopala xerene</i> (Newman)
<i>Symphytotrichum pilosum</i> (Willd.) Nesom (Asteraceae)	<i>Myochrous denticollis</i> (Say)
<i>Symphytotrichum praealtum</i> (Poir.) Nesom (Asteraceae)	<i>Diabrotica undecimpunctata</i> Mannerheim, <i>Microrhopala excavata</i> (Olivier)
<i>Symphytotrichum puniceum</i> (L.) A. & D. Löve (Asteraceae)	<i>Acalymma vittatum</i> (Fabricius), <i>Cryptocephalus venustus</i> Fabricius, <i>Microrhopala xerene</i> (Newman)
<i>Symphytotrichum shortii</i> (Lindl.) Nesom (Asteraceae)	<i>Sumitrosis inaequalis</i> (Weber)
<i>Symphytotrichum turbinellum</i> (Lindl.) G. L. Nesom (Asteraceae)	<i>Diabrotica undecimpunctata</i> Mannerheim
<i>Symphytotrichum urophyllum</i> (Lindl.) Nesom (Asteraceae)	<i>Ophraella pilosa</i> LeSage
<i>Symphytum grandiflorum</i> DC. (Boraginaceae)	<i>Longitarsus quadriguttatus</i> (Pontoppidan)
<i>Symphytum ibericum</i> Steven (Boraginaceae)	<i>Longitarsus quadriguttatus</i> (Pontoppidan)
<i>Symphytum officinale</i> L. (Boraginaceae)	<i>Longitarsus luridus</i> (Scopoli), <i>L. quadriguttatus</i> (Pontoppidan), <i>L. succineus</i> (Foudras)
<i>Symphytum palestinum</i> Boiss. (Boraginaceae)	<i>Longitarsus succineus</i> (Foudras)
<i>Symplocarpus foetidus</i> (L.) W. Salisb. (Araceae)	<i>Calligrapha californica</i> Linell, <i>Donacia biimpressa</i> Melsheimer, <i>D. hirticollis</i> Kirby, <i>D. tuberculata</i> Lacordaire, <i>Phyllotreta striolata</i> (Fabricius), <i>Plateumaris flavipes</i> (Kirby), <i>P. metallica</i> (Ahrens), <i>P. rufa</i> (Say)
<i>Symplocarpus</i> sp. (Araceae)	<i>Phyllotreta lewisii</i> (Crotch)
<i>Symplocos tinctoria</i> (L.) L'Her. (Symplocaceae)	<i>Rhabdopterus picipes</i> (Olivier)
<i>Synosma suaveolens</i> (L.) Britton (Asteraceae)	<i>Longitarsus jacobaeae</i> (Waterhouse)

Leaf Beetles Listed by Plants

<i>Syringa</i> sp. (Oleaceae)	<i>Acalymma vittatum</i> (Fabricius), <i>Altica ignita</i> Illiger, <i>Cryptocephalus notatus</i> Fabricius, <i>Disonycha uniguttata</i> (Say), <i>Epitrix cucumeris</i> (Harris), <i>Pseudoluperus longulus</i> (LeConte), <i>Scelolyperus varipes</i> (LeConte)
<i>Syzygium malaccense</i> (L.) Merr. & L. M. Perry (Myrtaceae)	<i>Physonota alutacea</i> Boheman
<i>Taenidia integerrima</i> (L.) Drude (Apiaceae)	<i>Babia quadriguttata</i> (Olivier)
<i>Tagetes tenuifolia</i> Cav. (Asteraceae)	<i>Phaedon cyanescens</i> Stål, <i>Zygogramma piceicollis</i> (Stål), <i>Z. signatipennis</i> (Stål)
<i>Tagetes</i> sp. (Asteraceae)	<i>Calligrapha californica</i> Linell, <i>Diabrotica longicornis</i> (Say)
<i>Talinum teretifolium</i> Pursh (Portulacaceae)	<i>Disonycha alabamae</i> Schaeffer
Tall goldenrod	(see <i>Solidago altissima</i> L.)
Tall hedge mustard	(see <i>Sisymbrium loeselii</i> L.)
Tamarack	(see <i>Larix laricina</i> (Du Roi) K. Koch)
Tamarisk	(see <i>Tamarix</i>)
Tamarix	(see <i>Tamarix</i>)
<i>Tamarix aphylla</i> (L.) Karst. (Tamaricaceae)	<i>Diorhabda elongata</i> Brullé
<i>Tamarix gallica</i> L. (Tamaricaceae)	<i>Chaetocnema ectypa</i> Horn, <i>Diorhabda elongata</i> Brullé, <i>Pachybrachis hepaticus</i> (Melsheimer), <i>Paria sexnotata</i> (Say)
<i>Tamarix ramosissima</i> Ledeb. (Tamaricaceae)	<i>Diorhabda elongata</i> Brullé
<i>Tamarix</i> sp. (Tamaricaceae)	<i>Chrysomela interrupta</i> Fabricius, <i>Diabrotica virgifera</i> LeConte, <i>Glyptoscelis squamulata</i> Crotch
<i>Tanacetum parthenium</i> (L.) Schultz-Bip. (Asteraceae)	<i>Brachypnoea tristis</i> (Olivier)
<i>Tanacetum vulgare</i> L. (Asteraceae)	<i>Kuschelina vians</i> (Illiger), <i>Longitarsus succineus</i> (Foudras), <i>Phyllotreta cruciferae</i> (Goeze)
<i>Tanacetum</i> sp. (Asteraceae)	<i>Cassida rubiginosa</i> Müller, <i>Chrysolina hudsonica</i> Brown
Tansy	(see <i>Tanacetum vulgare</i> L.)
Tansy mustard	(see <i>Descurainia pinnata</i> (Walt.) Britt.)
Tansy ragwort	(see <i>Senecio jacobaea</i> L.)
<i>Taraxacum erythrospermum</i> Andr. (Asteraceae)	(see <i>Taraxacum laevigatum</i> (Willd.) DC.)
<i>Taraxacum laevigatum</i> (Willd.) DC. (Asteraceae)	<i>Acalymma vittatum</i> (Fabricius)
<i>Taraxacum officinale</i> Weber ex F. H. Wiggers (Asteraceae)	<i>Acalymma vittatum</i> (Fabricius), <i>Diabrotica undecimpunctata</i> Mannerheim, <i>Epitrix tuberis</i> Gentner
<i>Taraxacum taraxacum</i> (L.) Karst. (Asteraceae)	(see <i>Taraxacum officinale</i> Weber ex F. H. Wiggers)
<i>Taraxacum</i> sp. (Asteraceae)	<i>Cassida rubiginosa</i> Müller, <i>Disonycha discoidea</i> (Fabricius), <i>Labidomera clivicollis</i> (Kirby)
<i>Taxodium ascendens</i> Brongn. (Taxodiaceae)	<i>Systema marginalis</i> (Illiger), <i>S. plicata</i> Blatchley
<i>Taxodium distichum</i> (L.) L. C. Rich. (Taxodiaceae)	<i>Colaspis pini</i> Barber, <i>Cryptocephalus bivius</i> Newman, <i>Donacia palmata</i> Olivier, <i>Myochrous floridanus</i> Schaeffer, <i>Paria wilcoxi</i> Balsbaugh, <i>Systema marginalis</i> (Illiger)
<i>Taxodium</i> sp. (Taxodiaceae)	<i>Cryptocephalus cupressi</i> Schaeffer, <i>Metachroma interruptum</i> (Say), <i>Odontota scapularis</i> (Olivier)
Taxus	(see <i>Taxus</i>)
<i>Taxus</i> sp. (Taxaceae)	<i>Oulema melanopus</i> (Linnaeus)
Teak	(see <i>Tectona grandis</i> L. f.)
<i>Tectona grandis</i> L. f. (Verbenaceae)	<i>Octotoma scabripennis</i> Guérin-Méneville, <i>Uroplata girardi</i> Pic
<i>Telanthera</i> sp. (Amaranthaceae)	<i>Disonycha collata</i> (Fabricius)
Teosinte	(see <i>Zea mays</i> L.)
<i>Tephrosia onobrychoides</i> Nutt. (Fabaceae)	<i>Odontota horni</i> Smith
<i>Tephrosia virginiana</i> (L.) Pers. (Fabaceae)	<i>Bassareus lituratus</i> (Fabricius), <i>Diabrotica cristata</i> (Harris), <i>Odontota horni</i> Smith, <i>O. notata</i> (Olivier), <i>Pachybrachis othonus</i> (Say), <i>Phyllecthris gentilis</i> (LeConte)
<i>Tephrosia</i> sp. (Fabaceae)	<i>Colaspis costipennis</i> Crotch
<i>Terminalia catappa</i> L. (Combretaceae)	<i>Chalepus sanguinicollis</i> (Linnaeus), <i>Cryptcephalus nigrocinctus</i> Suffrian
<i>Tetradymia glabrata</i> A. Gray (Asteraceae)	<i>Disonycha latifrons</i> Schaeffer

<i>Tetradymia</i> sp. (Asteraceae)	<i>Cryptocephalus spurcus</i> LeConte
<i>Tetragonia</i> sp. (Aizoaceae)	<i>Cassida azurea</i> Fabricius
<i>Teucrium canadense</i> L. (Lamiaceae)	<i>Capraita circumdata</i> (Randall), <i>C. nigro-signata</i> (Schaeffer), <i>C. thymoides</i> (Crotch), <i>Kuschelina gibbitarsa</i> (Say)
<i>Teucrium cubense</i> Jacq. (Lamiaceae)	<i>Capraita nigrosignata</i> (Schaeffer), <i>Kuschelina gibbitarsa</i> (Say)
<i>Teucrium</i> sp. (Lamiaceae)	<i>Capraita sexmaculata</i> (Illiger), <i>Systema frontalis</i> (Fabricius)
Texas ebony	(see <i>Ebenopsis ebano</i> (Berl.) Barneby & Grimes)
Texas persimmon	(see <i>Diospyros texana</i> Scheele)
<i>Thalictrum minus</i> L. (Ranunculaceae)	<i>Psylliodes chrysocephalus</i> (Linnaeus)
<i>Thalictrum</i> sp. (Ranunculaceae)	<i>Chelymorpha cassidea</i> (Fabricius), <i>De-loyala guttata</i> (Olivier)
<i>Thelesperma filifolium</i> (Hook.) A. Gray (Asteraceae)	<i>Diabrotica virgifera</i> LeConte, <i>Phaedon desotonis</i> Balsbaugh
<i>Thelypodium sagittatum</i> (Nutt.) Endl. (Brassicaceae)	<i>Pseudoluperus longulus</i> (LeConte)
<i>Theobroma cacao</i> L. (Sterculiaceae)	<i>Calligrapha fulvipes</i> Stål
<i>Theobroma</i> sp. (Sterculiaceae)	<i>Cerotoma atrofasciata</i> Jacoby, <i>C. ruficornis</i> (Olivier), <i>Neolema dorsalis</i> (Olivier)
<i>Thermopsis</i> sp. (Fabaceae)	<i>Glyptina atriventris</i> Horn
Thimbleberry	(see <i>Rubus</i>)
<i>Thinopyrum intermedium</i> (Host) Barkworth & D. R. Dewey (Poaceae)	<i>Diabrotica longicornis</i> (Say), <i>D. virgifera</i> LeConte, <i>Phyllotreta albionica</i> (LeConte)
<i>Thinopyrum ponticum</i> (Podp.) Z.-W. Liu & R.-C. Wang (Poaceae)	<i>Diabrotica longicornis</i> (Say), <i>D. virgifera</i> LeConte
Thistle	(see <i>Carduus</i> , <i>Cirsium</i> , etc.)
<i>Thlaspi alpestre</i> L. (Brassicaceae)	<i>Phyllotreta albionica</i> (LeConte)
<i>Thlaspi arvense</i> L. (Brassicaceae)	<i>Leptinotarsa decemlineata</i> (Say), <i>Phyllotreta cruciferae</i> (Goeze), <i>P. striolata</i> (Fabricius), <i>Psylliodes chrysocephalus</i> (Linnaeus)
<i>Thlaspi montanum</i> L. (Brassicaceae)	<i>Phyllotreta undulata</i> (Kutschera)
Thompson seedless grape	(see <i>Vitis vinifera</i> L.)
Thorn	(see <i>Crataegus</i> and similar genera)
Thorn apple	(see <i>Datura</i>)
Thoroughwort	(see <i>Eupatorium</i>)
Three-seeded mercury	(see <i>Acalypha</i>)
<i>Thuja</i> sp. (Cupressaceae)	<i>Calligrapha alni</i> Schaeffer, <i>Syneta ferruginea</i> (Germar)
<i>Thurberia thespesioides</i> A. Gray (Malvaceae)	(see <i>Gossypium thurberi</i> Todaro)
<i>Thymus serpyllum</i> L. (Lamiaceae)	<i>Longitarsus pratensis</i> (Panzer), <i>L. succineus</i> (Foudras)
Tickseed	(see <i>Bidens</i> , <i>Coreopsis</i>)
Tick-trefoil	(see <i>Desmodium</i>)
Tiger lily	(see <i>Lilium</i>)
<i>Tilia americana</i> L. (Tiliaceae)	<i>Altica ulmi</i> Woods, <i>Baliosus nervosus</i> (Panzer), <i>Calligrapha amator</i> Brown, <i>C. pnirsa</i> Stål, <i>C. scalaris</i> (LeConte), <i>C. tiliae</i> Brown, <i>C. virginea</i> Brown, <i>Plagiometriona clavata</i> (Fabricius), <i>Sumitrosis rosea</i> (Weber), <i>Xanthonia decemnotata</i> (Say), <i>X. villosula</i> (Melsheimer)
<i>Tilia</i> sp. (Tiliaceae)	<i>Bassareus mammifer</i> (Newman), <i>Brachypnoea puncticollis</i> (Say), <i>Calligrapha multiguttata</i> Stål, <i>C. philadelphica</i> (Linnaeus), <i>Chaetocnema confinis</i> Crotch, <i>Cryptocephalus badius</i> Suffrian, <i>Epitrix cucumeris</i> (Harris), <i>Monocesta coryli</i> (Say), <i>Neolema ephippium</i> (Lacordaire), <i>Paria quadrinotata</i> (Say), <i>Rhabdopterus picipes</i> (Olivier)
<i>Tillandsia usneoides</i> (L.) L. (Bromeliaceae)	<i>Altica chalybea</i> Illiger, <i>A. ignita</i> Illiger, <i>A. woodsi</i> Isely, <i>Anomoea laticlavata</i> (Forster), <i>Bassareus detritus</i> (Olivier), <i>Capraita suturalis</i> (Fabricius), <i>Cerotoma trifurcata</i> (Forster), <i>Charidotella sexpunctata</i> (Fabricius), <i>Chelymorpha cassidea</i> (Fabricius), <i>Cryptocephalus tinctus</i> LeConte, <i>Derocrepis erythropus</i> (Melsheimer), <i>Disonycha pensylvanica</i> (Illiger), <i>Distigmoptera pilosa</i> (Illiger), <i>Floridocassis repudiata</i> (Suffrian), <i>Longitarsus solidaginis</i> Horn, <i>Mantura floridana</i> Crotch, <i>Margaridisa atriventris</i> (Melsheimer), <i>Myochrous denticollis</i> (Say), <i>Neochlamisus gibbosus</i> (Fabricius), <i>Paria canella</i> (Fabricius), <i>Strabala rufa</i> (Illiger)

Leaf Beetles Listed by Plants

Timothy	(see <i>Phleum</i>)
<i>Tiquilia greggii</i> (Torr. & Gray) A. Richards (Boraginaceae)	<i>Spintherophyta exigua</i> Schultz
<i>Tiquilia plicata</i> (Torr.) A. Richards (Boraginaceae)	<i>Cadiz hardyi</i> Andrews & Gilbert
<i>Tithonia fruticosa</i> S. Canby & Rose (Asteraceae)	<i>Leptinotarsa behrensi</i> Harold
<i>Tithonia tubiformis</i> (Jacq.) Cas. (Asteraceae)	<i>Phaedon cyanescens</i> Stål, <i>Zygogramma piceicollis</i> (Stål), <i>Z. signatipennis</i> (Stål)
Toadflax	(see <i>Linaria</i>)
Tobacco	(see <i>Nicotiana</i>)
Tokay grape	(see <i>Vitis vinifera</i> L.)
Tomatillo	(see <i>Physalis ixocarpa</i> Hornem.)
Tomato	(see <i>Lycopersicon esculentum</i> Mill.)
Touch-me-not	(see <i>Impatiens</i>)
<i>Toxicodendron diversilobum</i> (J. Torr. & A. Gray) E. L. Green (Anacardiaceae)	<i>Orthaltica reticollis</i> (LeConte)
<i>Toxicodendron radicans</i> (L.) Kuntze (Anacardiaceae)	<i>Chlamisus foveolatus</i> (Knoch), <i>Coleo-thorpa dominicana</i> (Fabricius), <i>Diabrotica virgifera</i> LeConte, <i>Orthaltica copalina</i> (Fabricius), <i>O. melina</i> Horn, <i>Pachybrachis m-nigrum</i> (Melsheimer), <i>P. tridens</i> (Melsheimer), <i>Systema frontalis</i> (Fabricius)
<i>Toxicodendron vernix</i> (L.) Kuntze (Anacardiaceae)	<i>Blepharida rhois</i> (Forster)
<i>Toxicodendron</i> sp. (Anacardiaceae)	<i>Altica chalybea</i> Illiger, <i>Calligrapha lunata</i> (Fabricius), <i>Chaetocnema irregularis</i> LeConte
<i>Tradescantia hirsuticaulis</i> Small (Commelinaceae)	<i>Oulema laticollis</i> White
<i>Tradescantia hirsutiflora</i> Bush (Commelinaceae)	<i>Oulema collaris</i> (Say), <i>O. palustris</i> (Blatchley)
<i>Tradescantia ohimensis</i> Raf. (Commelinaceae)	<i>Diabrotica cristata</i> (Harris), <i>Oulema collaris</i> (Say), <i>O. longipennis</i> (Linell)
<i>Tradescantia reflexa</i> Raf. (Commelinaceae)	(see <i>Tradescantia ohimensis</i> Raf.)
<i>Tradescantia subaspera</i> Ker Gawl. (Commelinaceae)	<i>Oulema collaris</i> (Say), <i>Paratriarius dorsatus</i> (Say)
<i>Tradescantia virginiana</i> L. (Commelinaceae)	<i>Neolema sexpunctata</i> (Olivier), <i>Oulema collaris</i> (Say), <i>O. sayi</i> (Crotch), <i>Paratriarius dorsatus</i> (Say)
<i>Tradescantia virginica</i> Walker (Commelinaceae)	<i>Oulema collaris</i> (Say)
<i>Tradescantia</i> sp. (Commelinaceae)	<i>Oulema cornuta</i> (Fabricius), <i>O. elongata</i> White
<i>Trapa natans</i> L. (Trapaceae)	<i>Galerucella nymphaeae</i> (Linnaeus)
Tree mallow	(see <i>Lavatera arborea</i> L.)
Tree poppy	(see <i>Dendromecon</i>)
Tree tobacco	(see <i>Nicotiana glauca</i> Grah.)
<i>Trema micrantha</i> (L.) Blume (Ulmaceae)	<i>Strabala rufa</i> (Illiger)
Trembling aspen	(see <i>Populus tremuloides</i> Michx.)
<i>Triadenum virginicum</i> (L.) Raf. (Clusiaceae)	<i>Systema frontalis</i> (Fabricius)
<i>Trianthema portulacastrum</i> L. (Aizoaceae)	<i>Chaetocnema fulvida</i> White, <i>Disonycha collata</i> (Fabricius)
<i>Tribulus terrestris</i> L. (Zygophyllaceae)	<i>Leptinotarsa peninsularis</i> (Horn), <i>L. tlas-calana</i> Stål, <i>L. tumamoca</i> Tower
<i>Trichostema dichotomum</i> L. (Lamiaceae)	<i>Kuschelina thoracica</i> (Fabricius)
<i>Tridens</i> sp. (Poaceae)	<i>Anisostena perspicua</i> (Horn)
<i>Trifolium agrarium</i> L. (Fabaceae)	(see <i>Trifolium aureum</i> Pollich)
<i>Trifolium aureum</i> Pollich (Fabaceae)	<i>Brachypnoea puncticollis</i> (Say)
<i>Trifolium hybridum</i> L. (Fabaceae)	<i>Brachypnoea puncticollis</i> (Say), <i>Colaspis brunnea</i> (Fabricius), <i>Psylliodes punctulatus</i> Melsheimer
<i>Trifolium incarnatum</i> L. (Fabaceae)	<i>Agroiconota bivittata</i> (Say), <i>Cerotoma trifurcata</i> (Forster), <i>Chaetocnema pulicaria</i> Melsheimer, <i>Diabrotica undecimpunctata</i> Mannerheim, <i>Diachus auratus</i> (Fabricius), <i>Disonycha glabrata</i> (Fabricius), <i>Phyllotreta aeneicollis</i> (Crotch), <i>P. zimmermanni</i> (Crotch), <i>Psylliodes punctulatus</i> Melsheimer, <i>Spintherophyta globosa</i> (Olivier), <i>Systema blanda</i> Melsheimer, <i>S. elongata</i> (Fabricius)
<i>Trifolium pratense</i> L. (Fabaceae)	<i>Brachypnoea puncticollis</i> (Say), <i>Cerotoma trifurcata</i> (Forster), <i>Chaetocnema confinis</i> Crotch, <i>C. denticulata</i> (Illiger), <i>C. pulicaria</i> Melsheimer, <i>Colaspis brunnea</i> (Fabricius), <i>C. crinicornis</i> Schaeffer, <i>C. louisianae</i> Blake, <i>Diabrotica longicornis</i> (Say), <i>D. undecimpunctata</i> Mannerheim, <i>D. virgifera</i> LeConte, <i>Diachus auratus</i> (Fabricius), <i>Dibolia borealis</i> Chevrolat, <i>Disonycha collata</i> (Fabricius), <i>D. glabrata</i> (Fabricius), <i>D. triangularis</i> (Say), <i>Distigmoptera</i>

- apicalis* Blake, *Epitrix cucumeris* (Harris), *E. fuscula* Crotch, *Glyptina texana* (Crotch), *Longitarsus sub-rufus* LeConte, *L. testaceus* (Melsheimer), *Neochlamisus platani* (Brown), *Odontota dorsalis* (Thunberg), *Oulema melanopus* (Linnaeus), *Pachybrachis femoratus* (Olivier), *P. nigricornis* (Say), *Paria quadrinotata* (Say), *Phyllotreta conjuncta* Gentner, *P. striolata* (Fabricius), *P. zimmermanni* (Crotch), *Psylliodes punctulatus* Melsheimer, *Systema blanda* Melsheimer, *S. frontalis* (Fabricius)
- Trifolium repens* L. (Fabaceae) *Brachypnoea puncticollis* (Say), *Cerotoma trifurcata* (Forster), *Chaetocnema pulicaria* Melsheimer, *Colaspis brunnea* (Fabricius), *Diabrotica bal-teata* LeConte, *D. undecimpunctata* Mannerheim, *Disonycha fumata* (LeConte), *Epitrix fuscula* Crotch, *Phyllotreta conjuncta* Gentner, *P. zimmermanni* (Crotch), *Psylliodes punctulatus* Melsheimer, *Systema blanda* Melsheimer, *S. frontalis* (Fabricius)
- Trifolium resupinatum* L. (Fabaceae) *Microtheca picea* (Guérin-Ménéville)
- Trifolium* sp. (Fabaceae) *Altica ambiens* LeConte, *A. oblitterata* LeConte, *Brachypnoea clypealis* (Horn), *Bromius obscurus* (Linnaeus), *Chaetocnema obesula* LeConte, *C. protensa* LeConte, *Erynephala puncticollis* (Say), *Galeruca browni* Blake, *Kuschelina fallax* (Melsheimer), *Lema daturaphila* Kogan & Goeden, *Longitarsus pellucidus* (Foudras), *Microtheca ochroloma* Stål, *Ophraella notata* (Fabricius), *Pachybrachis hepaticus* (Melsheimer), *Paria thoracica* (Melsheimer), *Syneta albida* LeConte, *Systema hudsonias* (Forster), *S. marginalis* (Illiger)
- Trigonella foenum-graecum* L. (Fabaceae) *Diabrotica undecimpunctata* Mannerheim
- Triosteum aurantiacum* Bickn. (Caprifoliaceae) *Capraita circumdata* (Randall)
- Tripolium pannonicum* (Jacq.) Debroc. (Asteraceae) *Chrysolina staphylaea* (Linnaeus)
- Tripsacum australe* Cutl. & Anders. (Poaceae) *Diabrotica virgifera* LeConte
- Tripsacum dactyloides* (L.) L. (Poaceae) *Anisostena bicolor* (Smith), *A. kansana* Schaeffer
- Tripsacum floridanum* T. C. Porter ex Vasey (Poaceae) *Diabrotica virgifera* LeConte
- Tripsacum latifolium* A. Hitchc. (Poaceae) *Diabrotica virgifera* LeConte
- Tripsacum laxum* Nash (Poaceae) *Diabrotica virgifera* LeConte
- Tripsacum* sp. (Poaceae) *Diabrotica longicornis* (Say)
- Triticum aestivum* L. (Poaceae) *Chaetocnema confinis* Crotch, *C. denticulata* (Illiger), *C. ectypa* Horn, *C. pulicaria* Melsheimer, *Diabrotica balteata* LeConte, *D. longicornis* (Say), *D. undecimpunctata* Mannerheim, *D. virgifera* LeConte, *Glyptoscelis pubescens* (Fabricius), *Neochlamisus gibbosus* (Fabricius), *Oulema melanopus* (Linnaeus), *Phyllotreta striolata* (Fabricius), *P. zimmermanni* (Crotch)
- Triticum durum* Desf. (Poaceae) *Oulema melanopus* (Linnaeus)
- Triticum sativum* Lam. (Poaceae) (see *Triticum aestivum* L.)
- Triticum spelta* L. (Poaceae) *Diabrotica longicornis* (Say), *D. virgifera* LeConte, *Oulema melanopus* (Linnaeus)
- Triticum vulgare* Vill. (Poaceae) (see *Triticum aestivum* L.)
- Triticum* sp. (Poaceae) *Acalymma vittatum* (Fabricius), *Altica foliaceae* LeConte, *A. ignita* Illiger, *A. litigata* Fall, *Bassareus lituratus* (Fabricius), *Chaetocnema concinna* (Marsham), *C. subconvexa* White, *C. subviridis* LeConte, *Chrysomela scripta* Fabricius, *Disonycha triangularis* (Say), *D. xanthomelas* (Dalman), *Entomoscelis americana* Brown, *Gastrophysa dissimilis* (Say), *Graphops curtippennis* (Melsheimer), *Lema trivittata* Say, *Longitarsus testaceus* (Melsheimer), *Myochrous cyphus* Blake, *M. denticollis* (Say), *Odontota dorsalis* (Thunberg), *Phyllotreta conjuncta* Gentner, *P. pusilla* Horn, *P. robusta* LeConte, *Psylliodes convexior* LeConte, *Systema blanda* Melsheimer, *S. marginalis* (Illiger), *Zygogramma piceicollis* (Stål)
- Trixis californica* Kell. (Asteraceae) *Zygogramma arizonica* Schaeffer
- Trollius asiaticus* L. (Ranunculaceae) *Chrysolina staphylaea* (Linnaeus)
- Tropaeolum majus* L. (Tropaeolaceae) *Phyllotreta albionica* (LeConte), *P. cruciferae* (Goeze), *P. undulata* (Kutschera), *Psylliodes chrysocephalus* (Linnaeus)
- Tropaeolum minus* L. (Tropaeolaceae) *Phyllotreta cruciferae* (Goeze), *P. striolata* (Fabricius)
- Tropaeolum* sp. (Tropaeolaceae) *Colaspis viriditincta* Schaeffer, *Diabrotica undecimpunctata* Mannerheim, *Phyllotreta pusilla* Horn
- Trumpet-creeper (see *Campsis radicans* (L.) Seem. ex Bureau)
- Tsuga canadensis* (L.) Carr. (Pinaceae) *Glyptoscelis pubescens* (Fabricius)
- Tsuga mertensiana* (Bong.) Carr. (Pinaceae) *Syneta carinata* Mannerheim
- Tsuga* sp. (Pinaceae) *Calligrapha alni* Schaeffer, *C. ignota* Brown, *C. philadelphica* (Linnaeus), *Labidomera clivicollis* (Kirby), *Pachybrachis obsoletus* Suffrian, *Scelolyperus meracus* (Say), *Xanthonia decemnotata* (Say)

Leaf Beetles Listed by Plants

Tulip tree	(see <i>Liriodendron tulipifera</i> L.)
<i>Tulipa</i> sp. (Liliaceae)	<i>Lilioceris lili</i> (Scopoli)
Tumble mustard	(see <i>Sisymbrium altissimum</i> L.)
Tumbleweed	(see <i>Amaranthus albus</i> L.)
Tumbling mustard	(see <i>Sisymbrium altissimum</i> L.)
Turban squash	(see <i>Cucurbita maxima</i> Duchn. ex Lam.)
Turkey oak	(see <i>Quercus laevis</i> Walt.)
Turk's cap lily	(see <i>Lilium superbum</i> L.)
Turnip	(see <i>Brassica rapa</i> L.)
<i>Tussilago farfara</i> L. (Asteraceae)	<i>Longitarsus succineus</i> (Foudras)
<i>Typha angustifolia</i> L. (Typhaceae)	<i>Diabrotica virgifera</i> LeConte
<i>Typha latifolia</i> L. (Typhaceae)	<i>Diabrotica undecimpunctata</i> Mannerheim, <i>D. virgifera</i> LeConte, <i>Disonycha uniguttata</i> (Say), <i>Donacia biimpressa</i> Melsheimer, <i>D. subtilis</i> Kunze, <i>Paria aterrima</i> (Olivier), <i>P. canella</i> (Fabricius), <i>Plateumaris flavipes</i> (Kirby)
<i>Typha</i> sp. (Typhaceae)	<i>Donacia fulgens</i> LeConte, <i>Labidomera clivicollis</i> (Kirby), <i>Pachybrachis othonus</i> (Say)
<i>Ulex</i> sp. (Fabaceae)	<i>Longitarsus pratensis</i> (Panzer)
<i>Ulmus alata</i> Michx. (Ulmaceae)	<i>Monocesta coryli</i> (Say), <i>Xanthogaleruca luteola</i> (Müller)
<i>Ulmus americana</i> L. (Ulmaceae)	<i>Altica bimarginata</i> Say, <i>A. carinata</i> Germar, <i>A. ulmi</i> Woods, <i>Anomoea flavokansiensis</i> Moldenke, <i>A. laticlavata</i> (Forster), <i>Baliosus nervosus</i> (Panzer), <i>Brachypnoea puncticollis</i> (Say), <i>Calligrapha scalaris</i> (LeConte), <i>C. tiliae</i> Brown, <i>Cryptocephalus quadruplex</i> Newman, <i>Monocesta coryli</i> (Say), <i>Odontota dorsalis</i> (Thunberg), <i>Pachybrachis othonus</i> (Say), <i>Xanthogaleruca luteola</i> (Müller)
<i>Ulmus campestris</i> L. (Ulmaceae)	(see <i>Ulmus minor</i> Mill.)
<i>Ulmus canescens</i> Melville (Ulmaceae)	<i>Xanthogaleruca luteola</i> (Müller)
<i>Ulmus carpinifolia</i> Gleditsch (Ulmaceae)	<i>Xanthogaleruca luteola</i> (Müller)
<i>Ulmus carpinifolia</i> Rupp. ex Suckow (Ulmaceae)	(see <i>Ulmus minor</i> Mill.)
<i>Ulmus crassifolia</i> Nutt. (Ulmaceae)	<i>Baliosus nervosus</i> (Panzer), <i>Diabrotica virgifera</i> LeConte, <i>Spintherophyta globosa</i> (Olivier)
<i>Ulmus davidiana</i> Planch. (Ulmaceae)	<i>Xanthogaleruca luteola</i> (Müller)
<i>Ulmus effusa</i> Willd. (Ulmaceae)	(see <i>Ulmus laevis</i> Pall.)
<i>Ulmus floridana</i> Chapm. (Ulmaceae)	(see <i>Ulmus americana</i> L.)
<i>Ulmus fulva</i> Michx. (Ulmaceae)	(see <i>Ulmus rubra</i> Muhl.)
<i>Ulmus glabra</i> Huds. (Ulmaceae)	<i>Xanthogaleruca luteola</i> (Müller)
<i>Ulmus hollandica</i> Mill. (Ulmaceae)	<i>Xanthogaleruca luteola</i> (Müller)
<i>Ulmus japonica</i> (Rehder) Sarg. (Ulmaceae)	<i>Monocesta coryli</i> (Say), <i>Xanthogaleruca luteola</i> (Müller)
<i>Ulmus laciniata</i> (Trautv.) Mayr. (Ulmaceae)	<i>Xanthogaleruca luteola</i> (Müller)
<i>Ulmus laevis</i> Pall. (Ulmaceae)	<i>Xanthogaleruca luteola</i> (Müller)
<i>Ulmus macrocarpa</i> Hance (Ulmaceae)	<i>Xanthogaleruca luteola</i> (Müller)
<i>Ulmus minor</i> Mill. (Ulmaceae)	<i>Gastrophysa polygoni</i> (Linnaeus), <i>Xanthogaleruca luteola</i> (Müller)
<i>Ulmus montana</i> With. (Ulmaceae)	(see <i>Ulmus glabra</i> Huds.)
<i>Ulmus parvifolia</i> Jacq. (Ulmaceae)	<i>Calligrapha scalaris</i> (LeConte), <i>Derocrepis erythrops</i> (Melsheimer), <i>Monocesta coryli</i> (Say), <i>Xanthogaleruca luteola</i> (Müller)
<i>Ulmus procera</i> Salisb. (Ulmaceae)	(see <i>Ulmus minor</i> Mill.)
<i>Ulmus propinqua</i> Koidz. (Ulmaceae)	<i>Xanthogaleruca luteola</i> (Müller)
<i>Ulmus pumila</i> L. (Ulmaceae)	<i>Monocesta coryli</i> (Say), <i>Systema frontalis</i> (Fabricius), <i>Xanthogaleruca luteola</i> (Müller)
<i>Ulmus racemosa</i> Thomas (Ulmaceae)	(see <i>Ulmus thomasi</i> Sarg.)
<i>Ulmus rubra</i> Muhl. (Ulmaceae)	<i>Altica ulmi</i> Woods, <i>Anomoea flavokansiensis</i> Moldenke, <i>A. laticlavata</i> (Forster), <i>Baliosus nervosus</i> (Panzer), <i>Monocesta coryli</i> (Say), <i>Odontota dorsalis</i> (Thunberg), <i>Xanthogaleruca luteola</i> (Müller)
<i>Ulmus suberosa</i> Moench (Ulmaceae)	<i>Xanthogaleruca luteola</i> (Müller)
<i>Ulmus szechuanica</i> Fang. (Ulmaceae)	<i>Xanthogaleruca luteola</i> (Müller)
<i>Ulmus thomasi</i> Sarg. (Ulmaceae)	<i>Calligrapha scalaris</i> (LeConte), <i>Xanthogaleruca luteola</i> (Müller)
<i>Ulmus wilsoniana</i> Schneid. (Ulmaceae)	<i>Xanthogaleruca luteola</i> (Müller)

- Ulmus* sp. (Ulmaceae) *Acalymma vittatum* (Fabricius), *Altica ambiens* LeConte, *A. chalybea* Illiger, *A. guatemalensis* Jacoby, *A. ignita* Illiger, *Bassareus mammifer* (Newman), *Brachypnoea tristis* (Olivier), *Brucita marmorata* (Jacoby), *Calligrapha amator* Brown, *C. multiguttata* Stål, *C. philadelphia* (Linnaeus), *Chrysomela scripta* Fabricius, *Crepidodera nana* (Say), *C. violacea* Melsheimer, *Cryptocephalus notatus* Fabricius, *Disorycha uniguttata* (Say), *Exema canadensis* Pierce, *Galerucella nymphaeae* (Linnaeus), *Lexiphanes saponatus* (Fabricius), *Neochlamisus bebbianae* (Brown), *N. eubati* (Brown), *N. platani* (Brown), *Neogalerucella californiensis* (Linnaeus), *Pachybrachis subfasciatus* LeConte, *P. tridens* (Melsheimer), *Paria canella* (Fabricius), *Phaedon viridis* Melsheimer, *Plagioderia versicolora* (Laicharting), *Psylliodes picinus* (Marsham), *Rhabdopterus deceptor* Barber, *R. picipes* (Olivier), *Sumitrosis inaequalis* (Weber), *S. rosea* (Weber), *Syneta ferruginea* (Germar), *Systema hudsonias* (Forster), *S. marginalis* (Illiger), *Tricholochmaea alni* (Fall), *Xanthonia decemnotata* (Say)
- Urochloa maximum* (Jacq.) R. Webster (Poaceae) (see *Panicum maximum* Jacq.)
- Urochloa mollis* (Sw.) Morrone & Zuloaga (Poaceae) *Chaetocnema denticulata* (Illiger), *C. pulicaria* Melsheimer
- Urtica dioica* L. (Urticaceae) *Acalymma vittatum* (Fabricius), *Baliosus nervosus* (Panzer), *Cerotoma trifurcata* (Forster), *Longitarsus ganglbaueri* Heikertinger, *Phyllotreta cruciferae* (Goeze), *Psylliodes punctulatus* Melsheimer
- Urtica gracilis* Ait. (Urticaceae) (see *Urtica dioica* L.)
- Urtica holosericea* Nutt. (Urticaceae) *Phyllotreta zimmermanni* (Crotch)
- Urtica urens* L. (Urticaceae) *Diabrotica balteata* LeConte, *Psylliodes punctulatus* Melsheimer
- Urtica* sp. (Urticaceae) *Chelymormpha cassidea* (Fabricius), *Chrysolina fastuosa* (Scopoli), *Diabrotica virgifera* LeConte, *Epitrix cucumeris* (Harris), *Leptinotarsa decemlineata* (Say), *L. juncta* (Germar), *Phyllotreta striolata* (Fabricius)
- Vaccaria hispanica* (Mill.) Rauschert (Caryophyllaceae) *Cassida azurea* Fabricius
- Vaccinium angustifolium* Benth. (Ericaceae) *Altica sylvia* Malloch, *A. torquata* LeConte, *A. ulmi* Woods, *Bassareus formosus* (Melsheimer), *Cryptocephalus venustus* Fabricius, *Neochlamisus cribripennis* (LeConte), *N. gibbosus* (Fabricius), *Tricholochmaea alni* (Fall), *T. decora* (Say), *T. vaccinii* (Fall)
- Vaccinium atrococcum* (Gray) Heller (Ericaceae) *Tricholochmaea vaccinii* (Fall)
- Vaccinium canadense* Kalm (Ericaceae) (see *Vaccinium myrtilloides* Michx.)
- Vaccinium corymbosum* L. (Ericaceae) *Cryptocephalus incertus* Olivier, *Neochlamisus gibbosus* (Fabricius), *Rhabdopterus picipes* (Olivier), *Systema frontalis* (Fabricius), *Tricholochmaea vaccinii* (Fall)
- Vaccinium macrocarpon* Ait. (Ericaceae) *Colaspis costipennis* Crotch, *Cryptocephalus incertus* Olivier, *Rhabdopterus picipes* (Olivier), *Systema frontalis* (Fabricius), *Tricholochmaea sablensis* (Brown)
- Vaccinium myrtilloides* Michx. (Ericaceae) *Cryptocephalus venustus* Fabricius, *Neochlamisus gibbosus* (Fabricius), *Tricholochmaea decora* (Say), *T. vaccinii* (Fall)
- Vaccinium myrtillus* L. (Ericaceae) *Neochlamisus gibbosus* (Fabricius), *Timarcha intricata* Haldeman
- Vaccinium ovatum* Pursh (Ericaceae) *Timarcha intricata* Haldeman
- Vaccinium pensylvanicum* Lam. (Ericaceae) (see *Vaccinium angustifolium* Benth.)
- Vaccinium scoparium* Leib. ex Coville (Ericaceae) *Timarcha intricata* Haldeman
- Vaccinium vacillans* Kalm. ex Torr. (Ericaceae) *Tricholochmaea decora* (Say), *T. vaccinii* (Fall)
- Vaccinium virgatum* Ait. (Ericaceae) *Capraita obsidiana* (Fabricius), *Cryptocephalus gibbicollis* Haldeman
- Vaccinium* sp. (Ericaceae) *Altica vaccinia* Blatchley, *Capraita circumdata* (Randall), *Colaspis flavocostata* Schaeffer, *Cryptocephalus binominis* Newman, *C. notatus* Fabricius, *C. quadruplex* Newman, *Dibolia melampyri* Parry, *Epitrix cucumeris* (Harris), *Neochlamisus chamaedaphnes* (Brown), *N. tuberculatus* (Klug), *Systema hudsonias* (Forster), *Timarcha cerdo* Stål, *Triachus atomus* (Suffrian)
- Valeriana* sp. (Valerianaceae) *Oulema melanopus* (Linnaeus)
- Valerianoides* sp. (Verbenaceae) (see *Stachytarpheta*)
- Valota* sp. (Poaceae) *Glyphuroplata nigella* (Weise), *G. uniformis* (Smith)
- Vegetable marrow (see *Cucurbita pepo* L.)
- Velvetbean (see *Mucuna*)
- Veratrum californicum* E. Durand (Liliaceae) *Plateumaris nitida* (Germar)

Leaf Beetles Listed by Plants

- Verbascum blattaria* L. (Scrophulariaceae) *Altica bimarginata* Say, *Capraita circumdata* (Randall)
- Verbascum thapsus* L. (Scrophulariaceae) *Capraita circumdata* (Randall), *C. subvittata* (Horn), *Kuschelina petaurista* (Fabricius), *Leptinotarsa decemlineata* (Say), *Odontota dorsalis* (Thunberg), *Orsodacne atra* (Ahrens)
- Verbascum* sp. (Scrophulariaceae) *Agroiconota bivittata* (Say), *Altica prasina* LeConte, *Capraita quercata* (Fabricius), *C. thymoides* (Crotch), *Deloyala guttata* (Olivier), *Disonycha collata* (Fabricius), *D. discoidea* (Fabricius), *D. xanthomelas* (Dalman), *Epitrix fuscata* Crotch, *Kuschelina gibbittarsa* (Say), *Labidomera clivicollis* (Kirby), *Longitarsus testaceus* (Melsheimer), *Metachroma angustulum* Crotch, *Neochlamisus bebbianae* (Brown), *Ophraella notulata* (Fabricius), *Parchicola tibialis* (Olivier), *Phyllotreta bipustulata* (Fabricius), *Systema frontalis* (Fabricius)
- Verbena* (see *Verbena* and similar genera)
- Verbena bracteata* Lag. & Rodr. (Verbenaceae) *Altica bimarginata* Say, *Systema blanda* Melsheimer
- Verbena bracteosa* Michx. (Verbenaceae) *Diabrotica undecimpunctata* Mannerheim
- Verbena brasiliensis* Vell. (Verbenaceae) *Longitarsus suspectus* Blatchley
- Verbena hastata* L. (Verbenaceae) *Longitarsus suspectus* Blatchley
- Verbena officinalis* L. (Verbenaceae) *Diabrotica undecimpunctata* Mannerheim
- Verbena stricta* Vent. (Verbenaceae) *Diabrotica undecimpunctata* Mannerheim, *Systema blanda* Melsheimer
- Verbena urticifolia* L. (Verbenaceae) *Capraita circumdata* (Randall), *Chaetocnema quadricollis* Schwarz, *Longitarsus suspectus* Blatchley, *Systema blanda* Melsheimer, *S. hudsonias* (Forster)
- Verbena* sp. (Verbenaceae) *Diabrotica virgifera* LeConte, *Kuschelina petaurista* (Fabricius)
- Verbesina alata* L. (Asteraceae) *Omophoita cyanipennis* (Fabricius)
- Verbesina alternifolia* (L.) Britt. ex Kearney (Asteraceae) *Acalymma vittatum* (Fabricius), *Brachypnoea chyealis* (Horn), *Diabrotica undecimpunctata* Mannerheim
- Verbesina encelioides* (Cav.) Benth. & Hook. f. ex A. Gray (Asteraceae) *Colaspis viridiceps* Schaeffer, *Deloyala guttata* (Olivier), *Diabrotica balteata* LeConte, *Metaparia opacicollis* (Horn), *Zygogramma piceicollis* (Stål)
- Verbesina fraseri* Hemsl. (Asteraceae) *Chlamisus maculipes* (Chevrolat)
- Verbesina microptera* DC. (Asteraceae) *Pentispa melanura* (Chapuis)
- Verbesina occidentalis* (L.) Walt. (Asteraceae) *Exema dispar* Lacordaire
- Verbesina virginica* L. (Asteraceae) *Diabrotica undecimpunctata* Mannerheim, *Exema dispar* Lacordaire, *Pentispa melanura* (Chapuis), *Spintherophyta globosa* (Olivier)
- Verbesina* sp. (Asteraceae) *Diabrotica tibialis* Jacoby, *Luperaltica senilis* (Say)
- Vernicia fordii* (Hemsl.) Airy Shaw (Euphorbiaceae) *Aphthona flava* Guillebau, *A. lacertosa* (Rosenhauer), *A. nigriscutis* Foudras
- Vernonanthera brasiliensis* (L.) H. Rob. (Asteraceae) *Disonycha glabrata* (Fabricius)
- Vernonia baldwinii* Torr. (Asteraceae) *Cryptocephalus notatus* Fabricius, *Diabrotica longicornis* (Say), *D. undecimpunctata* Mannerheim, *Glyptina spuria* LeConte, *G. texana* (Crotch), *Kuschelina miniata* (Fabricius), *Strongylocassis atripes* (LeConte), *Zygogramma suturalis* (Fabricius)
- Vernonia fasciculata* Michx. (Asteraceae) *Neogalerucella californiensis* (Linnaeus)
- Vernonia interior* Small (Asteraceae) (see *Vernonia baldwinii* Torr.)
- Vernonia noveboracensis* (L.) Willd. (Asteraceae) *Diabrotica cristata* (Harris), *Sumitrosis inaequalis* (Weber)
- Vernonia scabra* Pers. (Asteraceae) (see *Vernonanthera brasiliensis* (L.) H. Rob.)
- Vernonia* sp. (Asteraceae) *Anomoea laticlavata* (Forster), *Charidotella emarginata* (Boheman), *Cryptocephalus venustus* Fabricius, *Exema canadensis* Pierce, *Lexiphanes saponatus* (Fabricius), *Physonota unipunctata* (Say), *Systema hudsonias* (Forster), *Tymnes tricolor* (Fabricius)
- Veronica anagallis* L. (Scrophulariaceae) *Longitarsus rubiginosus* (Foudras)
- Veronica beccabunga* L. (Scrophulariaceae) *Chrysolina staphylaea* (Linnaeus), *Longitarsus luridus* (Scopoli), *L. rubiginosus* (Foudras), *Phaedon armoraciae* (Linnaeus)
- Veronica officinalis* L. (Scrophulariaceae) *Capraita subvittata* (Horn)
- Veronica peregrina* L. (Scrophulariaceae) *Longitarsus turbatus* Horn
- Veronica scutellata* L. (Scrophulariaceae) *Phaedon armoraciae* (Linnaeus)
- Veronica serpyllifolia* L. (Scrophulariaceae) *Longitarsus nigrocephalus* White

<i>Veronica</i> sp. (Scrophulariaceae)	<i>Lexiphanes saponatus</i> (Fabricius), <i>Neogalerucella pusilla</i> (Duftschmid)
<i>Veronicastrum virginicum</i> (L.) Farw. (Scrophulariaceae)	<i>Capraita circumdata</i> (Randall), <i>C. thymoides</i> (Crotch)
Vetch	(see <i>Coronilla</i> , <i>Vicia</i> , etc.)
<i>Viburnum</i>	(see <i>Viburnum</i>)
<i>Viburnum acerifolium</i> L. (Caprifoliaceae)	<i>Pyrrhalta viburni</i> (Paykull), <i>Rhabdopterus picipes</i> (Olivier)
<i>Viburnum carlesii</i> Hemsl. (Caprifoliaceae)	<i>Pyrrhalta viburni</i> (Paykull)
<i>Viburnum cassinoides</i> L. (Caprifoliaceae)	(see <i>Viburnum nudum</i> L.)
<i>Viburnum dentatum</i> L. (Caprifoliaceae)	<i>Pyrrhalta viburni</i> (Paykull), <i>Spintherophyta globosa</i> (Olivier)
<i>Viburnum dilatatum</i> Thunb. (Caprifoliaceae)	<i>Pyrrhalta viburni</i> (Paykull)
<i>Viburnum japonicum</i> (Thunb.) Spreng. (Caprifoliaceae)	<i>Rhabdopterus picipes</i> (Olivier)
<i>Viburnum lantana</i> L. (Caprifoliaceae)	<i>Pyrrhalta viburni</i> (Paykull)
<i>Viburnum lantanoides</i> Michx. (Caprifoliaceae)	<i>Orsodacne atra</i> (Ahrens)
<i>Viburnum lentago</i> L. (Caprifoliaceae)	<i>Pyrrhalta viburni</i> (Paykull)
<i>Viburnum nudum</i> L. (Caprifoliaceae)	<i>Acalymma vittatum</i> (Fabricius), <i>Orsodacne atra</i> (Ahrens), <i>Scelolyperus meracus</i> (Say)
<i>Viburnum opulus</i> L. (Caprifoliaceae)	<i>Pyrrhalta viburni</i> (Paykull)
<i>Viburnum plicatum</i> Thunb. (Caprifoliaceae)	<i>Pyrrhalta viburni</i> (Paykull)
<i>Viburnum prunifolium</i> L. (Caprifoliaceae)	<i>Acalymma vittatum</i> (Fabricius), <i>Chaetocnema confinis</i> Crotch, <i>Pyrrhalta viburni</i> (Paykull)
<i>Viburnum pubescens</i> (Ait.) Pursh (Caprifoliaceae)	<i>Acalymma vittatum</i> (Fabricius), <i>Disonycha limbicollis</i> (LeConte)
<i>Viburnum rafinesquianum</i> J. A. Schultes (Caprifoliaceae)	<i>Pyrrhalta viburni</i> (Paykull)
<i>Viburnum recognitum</i> Fernald (Caprifoliaceae)	<i>Pyrrhalta viburni</i> (Paykull)
<i>Viburnum</i> x <i>rhytidophylloides</i> J. Sur. (Caprifoliaceae)	<i>Pyrrhalta viburni</i> (Paykull)
<i>Viburnum rufidulum</i> Raf. (Caprifoliaceae)	<i>Capraita circumdata</i> (Randall)
<i>Viburnum sargentii</i> Koehne (Caprifoliaceae)	(see <i>Viburnum opulus</i> L.)
<i>Viburnum sieboldii</i> Miq. (Caprifoliaceae)	<i>Pyrrhalta viburni</i> (Paykull)
<i>Viburnum tinus</i> L. (Caprifoliaceae)	<i>Pyrrhalta viburni</i> (Paykull)
<i>Viburnum trilobum</i> Marshall (Caprifoliaceae)	<i>Plateumaris nitida</i> (Germar), <i>Pyrrhalta viburni</i> (Paykull)
<i>Viburnum wrightii</i> Miq. (Caprifoliaceae)	<i>Pyrrhalta viburni</i> (Paykull)
<i>Viburnum</i> sp. (Caprifoliaceae)	<i>Calligrapha dolosa</i> Brown, <i>Cryptocephalus mutabilis</i> Melsheimer, <i>Diabrotica virgifera</i> LeConte, <i>Epitrix cucumeris</i> (Harris)
<i>Vicia atropurpurea</i> Desf. (Fabaceae)	(see <i>Vicia benghalensis</i> L.)
<i>Vicia benghalensis</i> L. (Fabaceae)	<i>Diabrotica undecimpunctata</i> Mannerheim
<i>Vicia bithynica</i> (L.) L. (Fabaceae)	<i>Rhabdopterus deceptor</i> Barber
<i>Vicia cracca</i> L. (Fabaceae)	<i>Altica corni</i> Woods, <i>Diabrotica undecimpunctata</i> Mannerheim
<i>Vicia dasycarpa</i> Ten. (Fabaceae)	<i>Diabrotica undecimpunctata</i> Mannerheim
<i>Vicia faba</i> L. (Fabaceae)	<i>Brachypnoea clypealis</i> (Horn), <i>Cerotoma ruficornis</i> (Olivier), <i>C. trifurcata</i> (Forster), <i>Chaetocnema pulicaria</i> Melsheimer, <i>Diabrotica balteata</i> LeConte, <i>D. tibialis</i> Jacoby, <i>D. undecimpunctata</i> Mannerheim, <i>Phaedon cyanescens</i> Stål, <i>Systema frontalis</i> (Fabricius), <i>Zygogramma piceicollis</i> (Stål)
<i>Vicia hirsuta</i> (L.) S. F. Gray (Fabaceae)	<i>Diabrotica undecimpunctata</i> Mannerheim
<i>Vicia monantha</i> Retz. (Fabaceae)	<i>Diabrotica undecimpunctata</i> Mannerheim
<i>Vicia sativa</i> L. (Fabaceae)	<i>Diabrotica undecimpunctata</i> Mannerheim
<i>Vicia villosa</i> Roth (Fabaceae)	<i>Acalymma vittatum</i> (Fabricius), <i>Diabrotica undecimpunctata</i> Mannerheim
<i>Vicia</i> sp. (Fabaceae)	<i>Margaridisa atriventris</i> (Melsheimer), <i>Microtheca ochroloma</i> Stål, <i>M. picea</i> (Guérin-Méneville), <i>Phyllotreta cruciferae</i> (Goeze), <i>Psylliodes chrysocephalus</i> (Linnaeus), <i>P. napi</i> (Fabricius), <i>Systema blanda</i> Melsheimer, <i>S. elongata</i> (Fabricius)
<i>Vigna aconitifolia</i> (Jacq.) Marechal (Fabaceae)	<i>Cerotoma trifurcata</i> (Forster)
<i>Vigna catjang</i> (Burm. f.) Walp. (Fabaceae)	(see <i>Vigna unguiculata</i> Clav.)
<i>Vigna luteola</i> (Jacq.) Benth. (Fabaceae)	<i>Cerotoma ruficornis</i> (Olivier)
<i>Vigna repens</i> Baker (Fabaceae)	<i>Chaetocnema blatchleyi</i> Csiki

Leaf Beetles Listed by Plants

- Vigna scabra* Sonder (Fabaceae) (see *Vigna vexillata* (L.) A. Rich)
- Vigna sinensis* (L.) Savi ex Hassk. (Fabaceae) (see *Vigna unguiculata* Clav.)
- Vigna unguiculata* Clav. (Fabaceae) *Acalymma vittatum* (Fabricius), *Altica foliaceae* LeConte, *A. litigata* Fall, *Asphaera lustrans* (Crotch), *Cerotoma ruficornis* (Olivier), *C. trifurcata* (Forster), *Chaetocnema confinis* Crotch, *C. pulicaria* Melsheimer, *Colaspis brunnea* (Fabricius), *Cryptocephalus brunneovittatus* Schaeffer, *C. cribripennis* LeConte, *Diabrotica balteata* LeConte, *D. undecimpunctata* Mannerheim, *D. virgifera* LeConte, *Disonycha glabrata* (Fabricius), *Epitrix cucumeris* (Harris), *E. fasciata* Blatchley, *E. hirtipennis* (Melsheimer), *Octotoma scabripennis* Guérin-Méneville, *Omophoita cyanipennis* (Fabricius), *Oulema cornuta* (Fabricius), *Strabala acuminata* Blake, *Systema blanda* Melsheimer, *S. elongata* (Fabricius)
- Vigna vexillata* (L.) A. Rich (Fabaceae) *Disonycha glabrata* (Fabricius)
- Vigna* sp. (Fabaceae) *Cerotoma atrofasciata* Jacoby, *Disonycha fumata* (LeConte)
- Viguiera chenopodina* Greene (Asteraceae) *Microrhopala rubrolineata* (Mannerheim)
- Viguiera deltoidea* A. Gray (Asteraceae) *Coleothorpa mucorea* (LeConte)
- Viguiera dentata* Cav. (Asteraceae) *Pentispa melanura* (Chapuis), *Zygogramma signatipennis* (Stål)
- Viguiera multiflora* (Nutt.) S. F. Blake (Asteraceae) (see *Gymnolomia multiflora* (Nutt.) Rothr.)
- Viguiera stenoloba* Blake (Asteraceae) *Calligrapha wickhami* Bowditch
- Viguiera tomentosa* A. Gray (Asteraceae) *Microrhopala rubrolineata* (Mannerheim)
- Vinca* sp. (Apocynaceae) *Altica litigata* Fall
- Vincetoxicum officinale* Moench (Asclepiadaceae) *Chrysochus auratus* (Fabricius)
- Vine maple (see *Acer circinatum* Pursh)
- Viola* sp. (Violaceae) *Diabrotica undecimpunctata* Mannerheim, *Epitrix cucumeris* (Harris), *E. fasciata* Blatchley, *Liliocercis lilii* (Scopoli)
- Violet (see *Viola*)
- Virginia creeper (see *Parthenocissus*)
- Virginia pine (see *Pinus virginiana* P. Mill.)
- Virginia stock (see *Cakile maritima* Scop.)
- Vitis acerifolia* Raf. (Vitaceae) *Fidia viticida* Walsh
- Vitis aestivalis* Michx. (Vitaceae) *Fidia longipes* (Melsheimer), *F. viticida* Walsh, *Rhabdopterus picipes* (Olivier)
- Vitis arizonica* Englem. (Vitaceae) *Altica carinata* Germar, *Fidia cana* Horn, *F. humeralis* Lefèvre, *Glyptoscelis squamulata* Crotch
- Vitis bicolor* Raf. (Vitaceae) *Altica chalybea* Illiger
- Vitis candicans* Engel. ex A. Gray (Vitaceae) *Altica chalybea* Illiger, *Fidia cana* Horn, *F. texana* Schaeffer, *F. viticida* Walsh
- Vitis labrusca* L. (Vitaceae) *Altica chalybea* Illiger, *Colaspis brunnea* (Fabricius), *Fidia longipes* (Melsheimer), *F. viticida* Walsh
- Vitis lincecumii* Buckley (Vitaceae) *Fidia longipes* (Melsheimer)
- Vitis longii* W. R. & B. Prince (Vitaceae) (see *Vitis acerifolia* Raf.)
- Vitis mustangensis* Buckl. (Vitaceae) (see *Vitis candicans* Engel. ex A. Gray)
- Vitis riparia* Michx. (Vitaceae) *Altica ambiens* LeConte, *Colaspis brunnea* (Fabricius), *Fidia viticida* Walsh, *Systema frontalis* (Fabricius), *Xanthonia villosula* (Melsheimer)
- Vitis rotundifolia* Michx. (Vitaceae) *Altica chalybea* Illiger, *A. foliaceae* LeConte, *A. woodsii* Isely, *Anomoea laticlavata* (Forster), *Brachypnoea chypealis* (Horn), *B. puncticollis* (Say), *Capraita circumdata* (Randall), *Chaetocnema confinis* Crotch, *Charidotella sexpunctata* (Fabricius), *Colaspis carolinensis* Blake, *C. floridana* Schaeffer, *C. recurva* Blake, *Diachus auratus* (Fabricius), *Disonycha triangularis* (Say), *Epitrix hirtipennis* (Melsheimer), *Fidia longipes* (Melsheimer), *F. viticida* Walsh, *Glyptina spuria* LeConte, *Lema daturaphila* Kogan & Goeden, *Longitarsus testaceus* (Melsheimer), *Orthaltica copalina* (Fabricius), *Phyllotreta striolata* (Fabricius), *Rhabdopterus picipes* (Olivier), *Systema marginalis* (Illiger)
- Vitis rupestris* Scheele (Vitaceae) *Fidia viticida* Walsh
- Vitis solonis* Planch. (Vitaceae) (see *Vitis acerifolia* Raf.)
- Vitis tiliaefolia* Humb. & Bonpl. (Vitaceae) *Pachybrachis femoratus* (Olivier)
- Vitis vinifera* L. (Vitaceae) *Altica chalybea* Illiger, *Bromius obscurus* (Linnaeus), *Colaspis brunnea* (Fabricius), *C. hesperia* Blake, *Diabrotica balteata* LeConte, *Glyptoscelis squamulata* Crotch, *Psylliodes chrysocephalus* (Linnaeus)
- Vitis vulpina* L. (Vitaceae) *Altica chalybea* Illiger, *Fidia longipes* (Melsheimer), *F. viticida* Walsh, *Rhabdopterus praetextus* (Say)

<i>Vitis</i> sp. (Vitaceae)	<i>Altica bimarginata</i> Say, <i>A. ignita</i> Illiger, <i>A. oblitterata</i> LeConte, <i>A. torquata</i> LeConte, <i>A. ulmi</i> Woods, <i>A. vialis</i> Fall, <i>Bassareus formosus</i> (Melsheimer), <i>Brachypnoea tristis</i> (Olivier), <i>Chaetocnema pulicaria</i> Melsheimer, <i>Chelymorpha cassidea</i> (Fabricius), <i>Colaspidea smaragdula</i> (LeConte), <i>Colaspis costipennis</i> Crotch, <i>C. favosa</i> Say, <i>C. planicostata</i> Blake, <i>C. pseudofavosa</i> Riley, <i>Coleothorpa dominicana</i> (Fabricius), <i>Crepidodera nana</i> (Say), <i>Cryptcephalus notatus</i> Fabricius, <i>Deloyala guttata</i> (Olivier), <i>Derocrepis erythropus</i> (Melsheimer), <i>Diabrotica undecimpunctata</i> Mannerheim, <i>D. virgifera</i> LeConte, <i>Disonycha collata</i> (Fabricius), <i>Epitrix fuscula</i> Crotch, <i>Fidia confusa</i> Strother, <i>Gastrophysa cyanea</i> Melsheimer, <i>G. formosa</i> (Say), <i>Glyptoscelis albida</i> LeConte, <i>G. barbata</i> (Say), <i>G. pubescens</i> (Fabricius), <i>Metachroma pallidum</i> (Say), <i>M. suturale</i> LeConte, <i>M. viticola</i> Linell, <i>Microtheca ochroloma</i> Stål, <i>Myochrous longulus</i> LeConte, <i>Neolema sexpunctata</i> (Olivier), <i>Odontota dorsalis</i> (Thunberg), <i>Paria aterrima</i> (Olivier), <i>P. canella</i> (Fabricius), <i>P. fragariae</i> Wilcox, <i>P. quadrinotata</i> (Say), <i>P. sexnotata</i> (Say), <i>P. thoracica</i> (Melsheimer), <i>Rhabdopterus deceptor</i> Barber, <i>Systema blanda</i> Melsheimer, <i>S. elongata</i> (Fabricius), <i>S. hudsonias</i> (Forster), <i>Tricholochmaea cavicollis</i> (LeConte), <i>Tymnes metasternalis</i> (Crotch), <i>T. tricolor</i> (Fabricius), <i>Typophorus pumilus</i> (LeConte)
<i>Vulpia</i> sp. (Poaceae)	<i>Chaetocnema pulicaria</i> Melsheimer, <i>Diabrotica undecimpunctata</i> Mannerheim, <i>Epitrix hirtipennis</i> (Melsheimer)
Wahoo	(see <i>Euonymus atropurpureus</i> Jacq.)
<i>Waldsteinia fragarioides</i> (Michx.) Tratt. (Rosaceae)	<i>Xanthonia villosula</i> (Melsheimer)
Wallflower	(see <i>Erysimum</i>)
Walnut	(see <i>Juglans</i>)
<i>Waltheria americana</i> L. (Sterculiaceae)	<i>Brachycoryna pumila</i> Guérin-Méneville, <i>Chlamisus quadrilobatus</i> (Schaeffer)
Wandering jew	(see <i>Zebrina pendula</i> Schnizl.)
<i>Washingtonia robusta</i> J. C. Wendl. (Arecaceae)	<i>Hemisphaerota cyanea</i> (Say)
Waterchestnut	(see <i>Trapa natans</i> L.)
Watercress	(see <i>Rorippa nasturtium-aquaticum</i> (L.) Hayek.)
Water lily	(see <i>Nuphar</i> , <i>Nymphaea</i> , etc.)
Watermelon	(see <i>Citrullus lanatus</i> (Thunb.) Matsum. & Nakai)
Water smartweed	(see <i>Polygonum amphibium</i> L.)
Wax bean	(see <i>Phaseolus vulgaris</i> L.)
Wax myrtle	(see <i>Myrica</i>)
Wax-myrtle	(see <i>Myrica</i>)
Waxweed	(see <i>Cuphea viscosissima</i> Jacq.)
Weeping willow	(see <i>Salix babylonica</i> L.)
Weigela	(see <i>Weigelia</i>)
<i>Weigela</i> sp. (Caprifoliaceae)	(see <i>Weigelia</i>)
<i>Weigelia</i> sp. (Caprifoliaceae)	<i>Systema blanda</i> Melsheimer, <i>S. frontalis</i> (Fabricius)
Wheat	(see <i>Triticum</i>)
White ash	(see <i>Fraxinus americana</i> L.)
White avens	(see <i>Geum canadense</i> Jacq.)
White birch	(see <i>Betula papyrifera</i> Marsh.)
White clover	(see <i>Trifolium repens</i> L.)
White elm	(see <i>Ulmus americana</i> L.)
White fir	(see <i>Abies concolor</i> (Gord. & Glend.) Lindl. ex Hildebr.)
White mustard	(see <i>Sinapis alba</i> L.)
White oak	(see <i>Quercus alba</i> L.)
White pine	(see <i>Pinus strobus</i> L.)
White pond lily	(see <i>Nymphaea odorata</i> Ait.)
White potato	(see <i>Solanum tuberosum</i> L.)
White snakeroot	(see <i>Eupatorium rugosum</i> Houtt.)
White-top	(see <i>Cardaria</i> , <i>Erigeron annuus</i> (L.) Pers.)
White waterlily	(see <i>Nymphaea odorata</i> Ait.)
<i>Wigandia</i> sp. (Hydrophyllaceae)	<i>Longitarsus varicornis</i> Suffrian
Wild balsam apple	(see <i>Echinocystis lobata</i> (Michx.) Torr. & Gray)
Wild bean	(see <i>Strophostyles</i> and similar genera)

Leaf Beetles Listed by Plants

Wild black cherry	(see <i>Prunus serotina</i> Ehrh.)
Wild crap apple	(see <i>Malus coronaria</i> (L.) P. Mill.)
Wild cucumber	(see <i>Echinocystis lobata</i> (Michx.) Torr. & Gray)
Wild indigo	(see <i>Baptisia tinctoria</i> (L.) R. Br.)
Wild licorice	(see <i>Glycyrrhiza lepidota</i> Nutt. ex Pursh)
Wild oats	(see <i>Avena fatua</i> L.)
Wild parsley	(see <i>Lomatium</i> , <i>Petroselinum</i> , <i>Pteryxia</i> , etc.)
Wild potato	(see <i>Ipomoea pandurata</i> (L.) G. F. W. Mey.)
Wild red cherry	(see <i>Prunus pensylvanica</i> L. f.)
Wild rice	(see <i>Zizania</i>)
Wild rye	(see <i>Elymus</i>)
Wild sweetpotato	(see <i>Ipomoea pandurata</i> (L.) G. F. W. Mey.)
Wild tomato	(see <i>Solanum triflorum</i> Nutt.)
Willow	(see <i>Salix</i>)
Willow-herb	(see <i>Epilobium</i>)
Winged elm	(see <i>Ulmus alata</i> Michx.)
Winged sumac	(see <i>Rhus copallina</i> L.)
Wisteria	(see <i>Wisteria</i>)
<i>Wisteria floribunda</i> (Willd.) DC. (Fabaceae)	<i>Cerotoma trifurcata</i> (Forster)
<i>Wisteria</i> sp. (Fabaceae)	<i>Diabrotica undecimpunctata</i> Mannerheim,
<i>Odontota dorsalis</i> (Thunberg), <i>Typophorus nigratus</i> (Fabricius)	
Witch-hazel	(see <i>Hamamelis virginiana</i> L.)
Wonderberry	(see <i>Solanum burbankii</i> Bitter)
Woodbine	(see <i>Parthenocissus</i>)
Wood sorrel	(see <i>Oxalis</i>)
Woolly-podded milkweed	(see <i>Asclepias eriocarpa</i> Benth.)
Worden grape	(see <i>Vitis labrusca</i> L.)
Wormseed mustard	(see <i>Erysimum cheiranthoides</i> L.)
Wormwood	(see <i>Artemisia</i>)
Wyche elm	(see <i>Ulmus glabra</i> Huds.)
<i>Xanthium canadense</i> Mill. (Asteraceae)	(see <i>Xanthium strumarium</i> L.)
<i>Xanthium commune</i> Britt. (Asteraceae)	<i>Systema blanda</i> Melsheimer
<i>Xanthium italicum</i> Moretti (Asteraceae)	(see <i>Xanthium strumarium</i> L.)
<i>Xanthium orientale</i> L. (Asteraceae)	<i>Systema blanda</i> Melsheimer
<i>Xanthium spinosum</i> L. (Asteraceae)	<i>Diabrotica undecimpunctata</i> Mannerheim,
<i>Systema blanda</i> Melsheimer	
<i>Xanthium strumarium</i> L. (Asteraceae)	<i>Diabrotica balteata</i> LeConte, <i>D. undecimpunctata</i> Mannerheim, <i>Disonycha latiovittata</i> Hatch, <i>Epitrix fasciata</i> Blatchley, <i>Microrhopala rubrolineata</i> (Mannerheim), <i>Myochrous longulus</i> LeConte, <i>Ophraella communis</i> LeSage, <i>O. notulata</i> (Fabricius), <i>O. nuda</i> LeSage, <i>Systema blanda</i> Melsheimer, <i>S. elongata</i> (Fabricius), <i>Zygogramma exclamationis</i> (Fabricius)
<i>Xanthium</i> sp. (Asteraceae)	<i>Chaetocnema quadricollis</i> Schwarz, <i>Epitrix hirtipennis</i> (Melsheimer), <i>Glyptina spuria</i> LeConte, <i>G. texana</i> (Crotch), <i>Longitarsus testaceus</i> (Melsheimer), <i>Myochrous denticollis</i> (Say), <i>Systema dimorpha</i> Blake, <i>S. frontalis</i> (Fabricius)
<i>Xanthocephalum microcephalum</i> (DC.) Shinnars (Asteraceae)	(see <i>Gutierrezia microcephala</i> (DC.) A. Gray)
<i>Xanthocephalum sarothrae</i> (Pursh) Shinnars (Asteraceae)	(see <i>Gutierrezia sarothrae</i> (Pursh) N. L. Britt. & Rusby)
<i>Xanthoxylum</i> sp. (Rutaceae)	(see <i>Zanthoxylum</i>)
<i>Xeranthemum annuum</i> L. (Asteraceae)	<i>Altica carduorum</i> Guérin-Ménéville, <i>Cassida rubiginosa</i> Müller
<i>Xeranthemum</i> sp. (Asteraceae)	<i>Liliocercis lili</i> (Scopoli)
<i>Xerophyllum tenax</i> (Pursh) Nutt. (Liliaceae)	<i>Megalostomis subfasciata</i> (LeConte)
<i>Xerophyllum</i> sp. (Liliaceae)	<i>Triarius lividus</i> (LeConte)
<i>Ximenesia exauriculata</i> (B. L. Rob. & Greenm.) Rydb. (Asteraceae)	<i>Colaspis viridiceps</i> Schaeffer
<i>Xolisma ferruginea</i> (Walt.) A. Heller (Ericaceae)	<i>Cryptocephalus lateritius</i> Newman
<i>Xylosma flexuosa</i> (H. E. K.) Hemsl. (Flacourtiaceae)	<i>Plagioderma thymaloides</i> Stål
<i>Xylothamia palmeri</i> (Gray) Nesom (Asteraceae)	<i>Exema canadensis</i> Pierce

Yarrow	(see <i>Achillea millefolium</i> L.)
Yaupon	(see <i>Ilex vomitoria</i> Soland. in Ait.)
Yellow birch	(see <i>Betula alleghaniensis</i> Britt.)
Yellow cottonwood	(see <i>Populus deltoides</i> Marshall)
Yellow locust	(see <i>Robinia pseudoacacia</i> L.)
Yellow mustard	(see <i>Sinapis alba</i> L.)
Yellow pine	(see <i>Pinus echinata</i> P. Mill., <i>P. ponderosa</i> Dougl. ex Lawson & C. Lawson)
Yellow pond lily	(see <i>Nuphar lutea</i> (L.) Sm.)
Yellow puccoon	(see <i>Hydrastis canadensis</i> L.)
Yellow squash	(see <i>Cucurbita pepo</i> L.)
Yellow straightneck squash	(see <i>Cucurbita pepo</i> L.)
Yellow sweetclover	(see <i>Melilotus officinalis</i> (L.) Pall.)
Yellow thistle	(see <i>Cnicus spinosissimus</i> L.)
Yellow waterlily	(see <i>Nuphar lutea</i> (L.) Sm.)
Yerba-santa	(see <i>Eriodictyon</i>)
Youngberry	(see <i>Rubus ursinus</i> Cham. & Schlecht.)
<i>Yucca angustifolia</i> Pursh (Agavaceae)	<i>Babia quadriguttata</i> (Olivier)
<i>Yucca mohaviensis</i> Sarg. (Agavaceae)	<i>Pseudoluperus maculicollis</i> (LeConte)
<i>Yucca whipplei</i> J. Torrey (Agavaceae)	<i>Acalymma trivittatum</i> (Mannerheim), <i>Diabrotica undecimpunctata</i> Mannerheim, <i>Pseudoluperus maculicollis</i> (LeConte)
<i>Yucca</i> sp. (Agavaceae)	<i>Cryptocephalus marginicollis</i> Suffrian, <i>Pteleon brevicornis</i> (Jacoby)
<i>Zantedeschia aethiopica</i> (L.) Spreng. (Araceae)	<i>Oulema palustris</i> (Blatchley)
<i>Zanthoxylum americanum</i> P. Mill. (Rutaceae)	<i>Derospidea brevicollis</i> (LeConte)
<i>Zanthoxylum clava-herculis</i> L. (Rutaceae)	<i>Derospidea brevicollis</i> (LeConte), <i>Diabrotica virgifera</i> LeConte
<i>Zanthoxylum fagara</i> (L.) Sarg. (Rutaceae)	<i>Derospidea ornata</i> (Schaeffer)
<i>Zanthoxylum hirsutum</i> Buckl. (Rutaceae)	<i>Derospidea brevicollis</i> (LeConte)
<i>Zanthoxylum</i> sp. (Rutaceae)	<i>Babia quadriguttata</i> (Olivier), <i>Labidomera clivicollis</i> (Kirby), <i>Trirhabda canadensis</i> (Kirby), <i>T. convergens</i> LeConte
<i>Zea diploperennis</i> Iltis, Doeblay, & R. Guzmán (Poaceae)	<i>Diabrotica barberi</i> Smith & Lawrence, <i>D. undecimpunctata</i> Mannerheim, <i>D. virgifera</i> LeConte
<i>Zea mays</i> L. (Poaceae)	<i>Acalymma trivittatum</i> (Mannerheim), <i>A. vittatum</i> (Fabricius), <i>Altica ambiens</i> LeConte, <i>A. foliaceae</i> LeConte, <i>A. ulmi</i> Woods, <i>Amphelasma cavum</i> (Say), <i>Asphaera lustrans</i> (Crotch), <i>Brachypnoea convexa</i> (Say), <i>B. puncticollis</i> (Say), <i>Cerotoma atrofasciata</i> Jacoby, <i>C. ruficornis</i> (Olivier), <i>C. trifurcata</i> (Forster), <i>Chaetocnema confinis</i> Crotch, <i>C. denticulata</i> (Illiger), <i>C. ectypa</i> Horn, <i>C. minuta</i> Melsheimer, <i>C. protensa</i> LeConte, <i>C. pulicaria</i> Melsheimer, <i>C. quadricollis</i> Schwarz, <i>C. subconvexa</i> White, <i>Charidotella sexpunctata</i> (Fabricius), <i>Chelymorpha cassidea</i> (Fabricius), <i>Chrysochus auratus</i> (Fabricius), <i>Chrysomela interrupta</i> Fabricius, <i>C. knabi</i> Brown, <i>C. lineatopunctata</i> Forster, <i>Colaspis brunnea</i> (Fabricius), <i>C. championi</i> Jacoby, <i>C. crinicornis</i> Schaeffer, <i>C. louisianae</i> Blake, <i>C. planicostata</i> Blake, <i>Cryptocephalus quadruplex</i> Newman, <i>Deloyala guttata</i> (Olivier), <i>Diabrotica balteata</i> LeConte, <i>D. barberi</i> Smith & Lawrence, <i>D. cristata</i> (Harris), <i>D. longicornis</i> (Say), <i>D. tibialis</i> Jacoby, <i>D. undecimpunctata</i> Mannerheim, <i>D. virgifera</i> LeConte, <i>Disonycha barberi</i> Blake, <i>D. collata</i> (Fabricius), <i>D. discoidea</i> (Fabricius), <i>D. glabrata</i> (Fabricius), <i>D. pensylvanica</i> (Illiger), <i>D. punctigera</i> (LeConte), <i>D. triangularis</i> (Say), <i>Epitrix brevis</i> Schwarz, <i>E. cucumeris</i> (Harris), <i>E. fasciata</i> Blatchley, <i>E. fuscata</i> Crotch, <i>E. hirtipennis</i> (Melsheimer), <i>E. subcrinita</i> (LeConte), <i>Fidia viticida</i> Walsh, <i>Galeruca browni</i> Blake, <i>Gastrophysa polygoni</i> (Linnaeus), <i>Glyptina abbreviata</i> Gentner, <i>G. brunnea</i> Horn, <i>Kuschelina miniata</i> (Fabricius), <i>K. perplexa</i> (Blake), <i>Lema daturaphila</i> Kogan & Goeden, <i>L. opulenta</i> Gemminger & Harold, <i>L. trivittata</i> Say, <i>Leptinotarsa decemlineata</i> (Say), <i>Lexiphanes guerini</i> (Perbosc), <i>Metrioidea brunnea</i> (Crotch), <i>M. varicornis</i> (LeConte), <i>Microtheca ochroloma</i> Stål, <i>Myochrous cyphus</i> Blake, <i>M. denticollis</i> (Say), <i>Omophoita cyanipennis</i> (Fabricius), <i>Orthaltica copalina</i> (Fabricius), <i>Oulema melanopus</i> (Linnaeus), <i>Paranapiacaba tricineta</i> (Say), <i>Paria thoracica</i> (Melsheimer), <i>P. wilcoxi</i> Balsbaugh, <i>Phyllobrotica circumdata</i> (Say), <i>P. decorata</i> (Say), <i>Phyllotreta bipustulata</i> (Fabricius), <i>P. cruciferae</i> (Goeze), <i>P. pusilla</i> Horn, <i>P. striolata</i> (Fabricius), <i>Physonota alutacea</i> Boheman, <i>Psylliodes convexior</i> LeConte, <i>P. picinus</i> (Marsham), <i>P. punctulatus</i> Melsheimer, <i>Rhabdopterus deceptor</i> Barber, <i>R. praetextus</i> (Say), <i>Strabala rufa</i> (Illiger), <i>Syphrea nana</i> (Crotch), <i>Systema blanda</i> Melsheimer, <i>S. elongata</i> (Fabricius), <i>S. frontalis</i> (Fabricius), <i>S. hudsonias</i> (Forster), <i>S. pallicornis</i> Schaeffer, <i>Typophorus nigrinus</i> (Fabricius), <i>Zygogramma piceicollis</i> (Stål), <i>Z. signatipennis</i> (Stål)

Leaf Beetles Listed by Plants

<i>Zea mexicana</i> (Schrad.) Kuntze (Poaceae)	<i>Diabrotica virgifera</i> LeConte
<i>Zea perennis</i> (A. Hitchc.) Reeves & Mangelsdorf (Poaceae)	<i>Diabrotica virgifera</i> LeConte
<i>Zea</i> sp. (Poaceae)	<i>Brachycoryna pumila</i> Guérin-Méneville, <i>Cassida nebulosa</i> Linnaeus, <i>Disonycha fumata</i> (LeConte), <i>Euphrytus intermedius</i> Jacoby, <i>Leptinotarsa tlascalana</i> Stål
<i>Zebrina pendula</i> Schnizl. (Commelinaceae)	<i>Neolema ephippium</i> (Lacordaire), <i>N. ovalis</i> White, <i>N. sexpunctata</i> (Olivier)
<i>Zelkova</i>	(see <i>Zelkova</i>)
<i>Zelkova acuminata</i> Planch. (Ulmaceae)	(see <i>Zelkova serrata</i> (Thunb.) Makino)
<i>Zelkova carpinifolia</i> Dippel (Ulmaceae)	(see <i>Zelkova crenata</i> Spach)
<i>Zelkova carpinifolia</i> (Pall.) K. Koch (Ulmaceae)	<i>Xanthogaleruca luteola</i> (Müller)
<i>Zelkova crenata</i> Spach (Ulmaceae)	<i>Xanthogaleruca luteola</i> (Müller)
<i>Zelkova serrata</i> (Thunb.) Makino (Ulmaceae)	<i>Xanthogaleruca luteola</i> (Müller)
<i>Zexmenia</i> sp. (Asteraceae)	<i>Sumitrosis arnetti</i> Butte
Zinfandel grape	(see <i>Vitis vinifera</i> L.)
Zinnia	(see <i>Zinnia</i>)
<i>Zinnia elegans</i> Jacq. (Asteraceae)	<i>Diabrotica undecimpunctata</i> Mannerheim, <i>Pachybrachis femoratus</i> (Olivier)
<i>Zinnia</i> sp. (Asteraceae)	<i>Acalymma vittatum</i> (Fabricius), <i>Brachypnoea clypealis</i> (Horn), <i>B. tristis</i> (Olivier), <i>Disonycha discoidea</i> (Fabricius), <i>Epitrix cucumeris</i> (Harris), <i>E. fasciata</i> Blatchley, <i>Lilioceris lili</i> (Scopoli), <i>Metachroma bridwelli</i> Blake
<i>Zizania</i> sp. (Poaceae)	<i>Calligrapha alni</i> Schaeffer, <i>Diabrotica undecimpunctata</i> Mannerheim
<i>Zizia aurea</i> (L.) W. D. J. Koch (Apiaceae)	<i>Acalymma vittatum</i> (Fabricius), <i>Brachypnoea convexa</i> (Say), <i>Cerotoma trifurcata</i> (Forster), <i>Diabrotica undecimpunctata</i> Mannerheim
<i>Ziziphus lycioides</i> A. Gray (Rhamnaceae)	(see <i>Ziziphus obtusifolia</i> A. Gray)
<i>Ziziphus obtusifolia</i> A. Gray (Rhamnaceae)	<i>Pachybrachis luridus</i> (Fabricius), <i>Spintherophyta exigua</i> Schultz
<i>Zizyphus</i> sp. (Rhamnaceae)	(see <i>Ziziphus</i>)
Zucchini	(see <i>Cucurbita pepo</i> L.)

Literature Cited

Contributors to the Cooperative Economic Insect Report and the Cooperative Plant Pest Report were often indicated by surname only. Although we have frequently been able to ascertain the initials of their given names, this has not always been the case. In the following bibliography, many authors are listed in the format, "Smith, *, * Jones, and * Doe." The asterisks indicate unknown initials.

- ABDULLAH, M. AND A. ABDULLAH. 1968. *Phyllobrotica decorata duportei*, a new sub-species of the Galerucinae (Coleoptera: Chrysomelidae) with a review of the species of *Phyllobrotica* in the Lyman Museum collection. Entomologist's Monthly Magazine 104:4-9.
- ABDULLAH, M. AND S. S. QURESHI. 1968. The Chrysomelidae, Coleoptera of Pakistan. Part III. —A key to the genera and species of the Galerucinae, with descriptions of new genera and species. Pakistan Journal of Scientific and Industrial Research 11:396-414.
- ABDULLAH, M. AND S. S. QURESHI. 1969. A key to the Pakistani genera and species of the Chrysomelinae and Halticinae (Coleoptera: Chrysomelidae), with description of new genera and species including the economic importance. Pakistan Journal of Scientific and Industrial Research 12:105-120.
- ABRAHAMSON, L. P., R. C. MORRIS, AND N. A. OVERGAARD. 1977. Control of certain insect pests in cottonwood nurseries with the systemic insecticide carbofuran. Journal of Economic Entomology 70(1):89-91.
- ADAMS, *. 1967. Flea beetles. Cooperative Economic Insect Report 17(18):361.
- ADAMS, *. 1970. Corn rootworms (*Diabrotica* spp.), Pennsylvania. Cooperative Economic Insect Report 20(34):605.
- ADAMS, D. C. AND D. J. FUNK. 1997. Morphometric inferences on sibling species and sexual dimorphism in *Neochlamisus bebbianae* leaf beetles: multivariant applications of the thin-plate spline. Systematic Biology 46(1):180-194.
- ADAMS, R. G. AND L. M. LOS. 1986. Monitoring adult corn flea beetles (Coleoptera: Chrysomelidae) in sweet corn fields with color sticky traps. Environmental Entomology 15(4):867-873.
- AGUIRRE URIBE, L. A., J. CORRALES REYNAGA, AND A. LOZOYA SALDAÑA. 1988. Catálogo de insectos asociados al guayule *Parthenium argentatum* Gray. Agraria, Revista Científica, Universidad Autónoma Agraria Antonio Narro, Saltillo, Mexico 4:60-72.
- AHRING, R. M. AND D. E. HOWELL. 1968. A suggested method of collecting insects associated with forage grass seed production. Journal of Economic Entomology 61(4):975-981.
- AINSLIE, C. N. 1905. *Caligrapha* [sic] (*Chrysomela*) *pnirsa*. The Canadian Entomologist 37:395.
- AINSLIE, C. N. 1925. Notes on the habits and life history of *Calligrapha pnirsa* Stal (Coleoptera). The Canadian Entomologist 57(9):209-211.
- ALDRICH, J. M. 1891. Notes of the season from South Dakota. Insect Life 4(1-2):67-68.
- ALI, A. D. 1989. Insect and related pests of turfgrass. Pages 49-68 in A. D. Ali and C. L. Elmore, Turfgrass Pests. University of California, Cooperative Extension Publication 4053.
- ALLEN, W. A. 1975. Northern corn rootworm (*Diabrotica longicornis*). Cooperative Economic Insect Report 25(1-5):7.
- ALTIERI, M. A. AND L. L. SCHMIDT. 1986. Population trends and feeding preferences of flea beetles (*Phyllotreta cruciferae* Goeze) in collard-wild mustard mixtures. Crop Protection 5(3):170-175.
- ALTIERI, M. A. AND W. H. WHITCOMB. 1980. Predaceous and herbivorous arthropods associated with camphorweed (*Heterotheca subaxillaris* Lamb.) in North Florida. Journal of the Georgia Entomological Society 15:290-299.
- AMEEN, A. O. AND R. N. STORY. 1997a. Fecundity and longevity of the yellowmargined leaf beetle (Coleoptera: Chrysomelidae) on crucifers. Journal of Agricultural Entomology 14(2):157-162.
- AMEEN, A. O. AND R. N. STORY. 1997b. Feeding preferences of larval and adult *Microtheca ochroloma* (Coleoptera: Chrysomelidae) on crucifer foliage. Journal of Agricultural Entomology 14(4):363-368.
- AMEEN, A. O. AND R. N. STORY. 1997c. Biology of the yellowmargined leaf beetle (Coleoptera: Chrysomelidae) on crucifers. Journal of Entomological Science 32(4):478-486.
- AMOS, * AND * WRENS. 1963. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 13(22):582.
- ANAYA-ROSALES, S., A. EQUIHUA-MARTÍNEZ, AND E. PRADO-BELTRÁN. 1987. Los Crisomelinos (Coleoptera: Chrysomelidae) del Valle de México. Centro de Entomología y Acarología, Colégio de Postgraduados, Chapingo, Mexico. 84 pages.
- ANDERSEN, J. F. AND R. L. METCALF. 1986. Identification of a volatile attractant for *Diabrotica* and *Acalymma* spp. from blossoms of *Cucurbita maxima* Duchesne. Journal of Chemical Ecology 12(3):687-699.
- ANDERSEN, J. F. AND R. L. METCALF. 1987. Factors influencing distribution of *Diabrotica* spp. in blossoms of cultivated *Cucurbita* spp. Journal of Chemical Ecology 13(4):681-699.
- ANDERSEN, L. W., R. E. HILL, AND R. E. ROSELLE. 1956. Summary of insect conditions — 1955, Nebraska. Cooperative Economic Insect Report 6(2):26-31.
- ANDERSON, *. 1967. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 17(19):385.
- ANDERSON, L. D. 1934. The life history and control of the potato flea beetle, *Epitrix cucumeris* Harris, on the eastern shore of Virginia. Journal of Economic Entomology 27:102-106.

Literature Cited

- ANDERSON, L. D. AND C. S. PAPP. 1961. The larger elm leaf beetle [sic], *Monocesta coryli* (Say) (Coleoptera: Chrysomelidae). Proceedings of the Entomological Society of Washington 63(3):203-207.
- ANDERSON, L. D. AND H. G. WALKER. 1936. Control of the potato flea-beetle, *Epitrix cucumeris* Harris. Virginia Truck Experiment Station Bulletin 92:1359-1378.
- ANDERSON, M. D., C. PENG, AND M. J. WEISS. 1992. Crambe, *Crambe abyssinica* Hochst., as a flea beetle resistant crop (Coleoptera: Chrysomelidae). Journal of Economic Entomology 85(2):594-600.
- ANDERSON, R. F. 1960. Forest and Shade Tree Entomology. John Wiley & Sons, Inc., New York. 428 pages.
- ANDISON, H. 1956. Common strawberry insects and their control. Canada Department of Agriculture, Science Service, Entomology Division, Publication 990:1-21.
- ANDOW, D. A., A. G. NICHOLSON, H. C. WIEN, AND H. R. WILLSON. 1986. Insect populations on cabbage grown with living mulches. Environmental Entomology 15:293-299.
- ANDRES, L. A. AND F. D. BENNETT. 1975. Biological control of aquatic weeds. Annual Review of Entomology 20:31-46.
- ANDREWS, A. W. 1923. The Coleoptera of the Shiras Expedition to Whitefish Point, Chippewa County, Michigan. Papers of the Michigan Academy of Science Arts and Letters 1:293-390.
- ANDREWS, F. G. AND A. J. GILBERT. 1992. *Cadi; hardyi*, a new genus and species of leaf beetle from a western North American sand dune (Coleoptera: Chrysomelidae). The Coleopterists Bulletin 46(1):4-14.
- ANDREWS, F. G. AND A. J. GILBERT. 1993. Studies on the Chrysomelidae (Coleoptera) of the Baja California Peninsula: a new species of *Orthaltica* (Alticinae), with notes on the genus in Baja California. The Pan-Pacific Entomologist 69(4):277-280.
- ANG, B. N. AND L. T. KOK. 1995. Seasonal mortality of *Cassida rubiginosa* (Coleoptera: Chrysomelidae) due to incomplete development and parasitization in southwestern Virginia. Journal of Entomological Science 30(1):9-17.
- ANG, B. N., L. T. KOK, G. I. HOLTZMAN, AND D. D. WOLF. 1994. Competitive growth of Canada thistle, tall fescue, and crownvetch in the presence of a thistle defoliator, *Cassida rubiginosa* Müller (Coleoptera: Chrysomelidae). Biological Control 4:277-284.
- ANG, B. N., L. T. KOK, G. I. HOLTZMAN, AND D. D. WOLF. 1995. Canada thistle [*Cirsium arvense* (L.) Scop.] response to density of *Cassida rubiginosa* Müller (Coleoptera: Chrysomelidae) and plant competition. Biological Control 5:31-38.
- ANONYMOUS. 1894a. Some insects injurious to squash, melon and cucumber vines. New York Agricultural Experiment Station Bulletin 75:409-425.
- ANONYMOUS. 1894b. The asparagus beetle. (*Crioceris asparagi*, Linn.). New York Agricultural Experiment Station Bulletin 75:425-427.
- ANONYMOUS. 1941. Striped cucumber beetle (*Diabrotica vittata* (F.)). United States Department of Agriculture, Bureau of Entomology and Plant Quarantine, Picture Sheet 7:1-2.
- ANONYMOUS. 1952. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 2(19):273.
- ANONYMOUS. 1953a (1952). The elm leaf beetle. United States Department of Agriculture, Leaflet 184 (revised):1-4.
- ANONYMOUS. 1953b. Beneficial insects. Cooperative Economic Insect Report 3(39):706-707.
- ANONYMOUS. 1954a. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 4(9):177.
- ANONYMOUS. 1954b. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*), Maryland. Cooperative Economic Insect Report 4(23):485.
- ANONYMOUS. 1954c. Pale-striped flea beetle (*Systema blanda*), Delaware. Cooperative Economic Insect Report 4(25):540.
- ANONYMOUS. 1954d. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 4(27):597.
- ANONYMOUS. 1954e. A leaf beetle (*Anomaea* [sic] *laticlavata*). Cooperative Economic Insect Report 4(29):671.
- ANONYMOUS. 1954f. Flea beetles, Colorado. Cooperative Economic Insect Report 4(31):721.
- ANONYMOUS. 1954g. A flea beetle (*Omophoita interjectionis*). Cooperative Economic Insect Report 4(31):723.
- ANONYMOUS. 1954h. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*), Delaware. Cooperative Economic Insect Report 4(33):769.
- ANONYMOUS. 1955a. The southern corn rootworm, how to control it. United States Department of Agriculture Leaflet 391:1-8.
- ANONYMOUS. 1955b. Tuber flea beetle (*Epitrix tuberis*). Cooperative Economic Insect Report 5(25):571.
- ANONYMOUS. 1955c. Pale striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 5(26):598.
- ANONYMOUS. 1955d. Rose leaf beetle (*Nodonta puncticollis*). Cooperative Economic Insect Report 5(26):608.
- ANONYMOUS. 1955e. Corn rootworms (*Diabrotica* spp.), Arizona. Cooperative Economic Insect Report 5(32):764.
- ANONYMOUS. 1956a. *Trirhabda pilosa* – the gourmand. United States Department of Agriculture, Forest Service, Range Improvement Notes, Intermountain Region 1(1):1.
- ANONYMOUS. 1956b. Flea beetles, Colorado. Cooperative Economic Insect Report 6(20):424.
- ANONYMOUS. 1956c. Corn flea beetle (*Chaetocnema pulicaria*), Illinois. Cooperative Economic Insect Report 6(21):446.
- ANONYMOUS. 1956d. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*), Maryland. Cooperative Economic Insect Report 6(23):520.
- ANONYMOUS. 1956e. Potato flea beetle (*Epitrix cucumeris*) – Wisconsin. Cooperative Economic Insect Report 6(26):615.

- ANONYMOUS. 1956f. Pale-striped flea beetle (*Systema blanda*) – Colorado. Cooperative Economic Insect Report 6(30):726.
- ANONYMOUS. 1956g. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 6(31):759-760.
- ANONYMOUS. 1957a. The elm leaf beetle in Ontario. Canada Department of Agriculture, Publication 1004:1-2.
- ANONYMOUS. 1957b. Summary of insect conditions – 1956, Colorado. Cooperative Economic Insect Report 7(3):40-42.
- ANONYMOUS. 1957c. Flea beetles, Illinois. Cooperative Economic Insect Report 7(18):335.
- ANONYMOUS. 1957d. Flea beetles, Colorado. Cooperative Economic Insect Report 7(29):575.
- ANONYMOUS. 1957e. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 7(35):706.
- ANONYMOUS. 1958a. Insects not known to occur in the United States, a leaf beetle (*Lema melanopa* L.). Cooperative Economic Insect Report 8(3):47-48.
- ANONYMOUS. 1958b. Corn flea beetle (*Chaetocnema pulicaria*). Cooperative Economic Insect Report 8(17):318.
- ANONYMOUS. 1958c. Flea beetles. Cooperative Economic Insect Report 8(18):335.
- ANONYMOUS. 1958d. Colorado potato beetle (*Leptinotarsa decemlineata*). Cooperative Economic Insect Report 8(23):482.
- ANONYMOUS. 1958e. Striped cucumber beetle (*Acalymma vittata*). Cooperative Economic Insect Report 8(27):587.
- ANONYMOUS. 1958f. A chrysomelid (*Luperodes bivittatus*). Cooperative Economic Insect Report 8(28):610.
- ANONYMOUS. 1958g. Striped cucumber beetle (*Acalymma vittata*). Cooperative Economic Insect Report 8(28):612.
- ANONYMOUS. 1958h. Tortoise beetles. Cooperative Economic Insect Report 8(30):655.
- ANONYMOUS. 1958i. A cucumber beetle (*Diabrotica undecimpunctata tenella*). Cooperative Economic Insect Report 8(30):655.
- ANONYMOUS. 1958j. A tortoise beetle (*Plagiometriona diversicollis*). Cooperative Economic Insect Report 8(31):675.
- ANONYMOUS. 1958k. Banded cucumber beetle (*Diabrotica balteata*). Cooperative Economic Insect Report 8(38):813.
- ANONYMOUS. 1958l. List of intercepted insects and mites, 1956. Cooperative Economic Insect Report 8(43):901-909.
- ANONYMOUS. 1958m. Insects not know to occur in the United States, cabbage-stem flea beetle (*Psylliodes chrysocephala* (L.)). Cooperative Economic Insect Report 8(44):923-924.
- ANONYMOUS. 1959a. Flea beetles. Ministry of Agriculture, Fisheries and Food (London), Advisory Leaflet 109:1-4.
- ANONYMOUS. 1959b. Summary of insect conditions – 1958, Colorado. Cooperative Economic Insect Report 9(2):11-13.
- ANONYMOUS. 1959c. Banded cucumber beetle (*Diabrotica balteata*). Cooperative Economic Insect Report 9(5):50.
- ANONYMOUS. 1959d. A spotted cucumber beetle (*Diabrotica undecimpunctata tenella*). Cooperative Economic Insect Report 9(11):169.
- ANONYMOUS. 1959e. A spotted cucumber beetle (*Diabrotica undecimpunctata tenella*). Cooperative Economic Insect Report 9(13):215.
- ANONYMOUS. 1959f. A spotted cucumber beetle (*Diabrotica undecimpunctata tenella*). Cooperative Economic Insect Report 9(14):236.
- ANONYMOUS. 1959g. Elongate flea beetle (*Systema elongata*). Cooperative Economic Insect Report 9(16):281.
- ANONYMOUS. 1959h. Corn flea beetle (*Chaetocnema pulicaria*). Cooperative Economic Insect Report 9(17):304.
- ANONYMOUS. 1959i. A spotted cucumber beetle (*Diabrotica undecimpunctata tenella*). Cooperative Economic Insect Report 9(17):311.
- ANONYMOUS. 1959j. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 9(19):355.
- ANONYMOUS. 1959k. Striped cucumber beetle (*Acalymma vittata*). Cooperative Economic Insect Report 9(19):355.
- ANONYMOUS. 1959l. Cucumber beetles. Cooperative Economic Insect Report 9(21):411.
- ANONYMOUS. 1959m. A flea beetle (*Altica foliacea*). Cooperative Economic Insect Report 9(23):485.
- ANONYMOUS. 1959n. Banded cucumber beetle (*Diabrotica balteata*). Cooperative Economic Insect Report 9(23):485.
- ANONYMOUS. 1959o. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 9(26):572.
- ANONYMOUS. 1959p. Southern corn rootworm (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 9(29):648.
- ANONYMOUS. 1959q. A spotted cucumber beetle (*Diabrotica undecimpunctata tenella*). Cooperative Economic Insect Report 9(32):731.
- ANONYMOUS. 1959r. Alder flea beetle (*Altica ambiens*). Cooperative Economic Insect Report 9(32):737.
- ANONYMOUS. 1959s. Status of some important insects in the United States, tuber flea beetle (*Epitrix tuberis* Gentner). Cooperative Economic Insect Report 9(33):763-764.
- ANONYMOUS. 1959t. A cucumber beetle (*Diabrotica undecimpunctata tenella*). Cooperative Economic Insect Report 9(37):847.
- ANONYMOUS. 1959u. Additional notes. Cooperative Economic Insect Report 9(37):852.
- ANONYMOUS. 1959v. A chrysomelid (*Lema californica*). Cooperative Economic Insect Report 9(38):870.
- ANONYMOUS. 1959w. Banded cucumber beetle (*Diabrotica balteata*). Cooperative Economic Insect Report 9(46):995.
- ANONYMOUS. 1960a. The elm leaf beetle. United States Department of Agriculture Leaflet 184:1-4.
- ANONYMOUS. 1960b. Summary of insect conditions in the United States, 1959; cotton insects. Cooperative Economic Insect Report 10(9):121-128.
- ANONYMOUS. 1960c. Summary of insect conditions in the United States, 1959; fruit insects. Cooperative Economic Insect Report 10(10):137-149.

Literature Cited

- ANONYMOUS. 1960d. Summary of insect conditions in the United States, 1959; truck crop insects. Cooperative Economic Insect Report 10(11):160-178.
- ANONYMOUS. 1960e. Summary of insect conditions in the United States, 1959; cereal and forage insects. Cooperative Economic Insect Report 10(12):191-206.
- ANONYMOUS. 1960f. Summary of insect conditions in the United States, 1959; cereal and forage insects. Cooperative Economic Insect Report 10(13):221-230.
- ANONYMOUS. 1960g. A cucumber beetle (*Diabrotica undecimpunctata tenella*). Cooperative Economic Insect Report 10(14):236.
- ANONYMOUS. 1960h. Summary of insect conditions in the United States, 1959; cereal and forage insects. Cooperative Economic Insect Report 10(15):256-278.
- ANONYMOUS. 1960i. A flea beetle (*Altica torquata*). Cooperative Economic Insect Report 10(19):358.
- ANONYMOUS. 1960j. A leaf beetle (*Calligrapha sigmoidea*). Cooperative Economic Insect Report 10(20):387.
- ANONYMOUS. 1960k. Western striped cucumber beetle (*Acalymma trivittata*). Cooperative Economic Insect Report 10(24):490.
- ANONYMOUS. 1960l. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 10(25):517.
- ANONYMOUS. 1960m. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 10(26):555.
- ANONYMOUS. 1960n. Flea beetles. Cooperative Economic Insect Report 10(28):621.
- ANONYMOUS. 1960o. Interceptions of special inters at U.S. ports of entry. Cooperative Economic Insect Report 10(29):667.
- ANONYMOUS. 1960p. A flea beetle (*Altica foliacea* [sic]). Cooperative Economic Insect Report 10(32):736.
- ANONYMOUS. 1960q. Elm leaf beetle (*Galerucella xanthomelaena*). Cooperative Economic Insect Report 10(32):742.
- ANONYMOUS. 1960r. Elm leaf beetle (*Galerucella xanthomelaena*). Cooperative Economic Insect Report 10(36):834.
- ANONYMOUS. 1960s. Northern corn rootworm (*Diabrotica longicornis*). Cooperative Economic Insect Report 10(39):892.
- ANONYMOUS. 1960t. Banded cucumber beetle (*Diabrotica balteata*). Cooperative Economic Insect Report 10(39):902.
- ANONYMOUS. 1960u. Summary of insect conditions in the United States, 1959; ornamental and shade tree insects. Cooperative Economic Insect Report 10(42):975-988.
- ANONYMOUS. 1960v. Banded cucumber beetle (*Diabrotica balteata*). Cooperative Economic Insect Report 10(44):1039.
- ANONYMOUS. 1961a. Summary of insect conditions – 1960, cereal and forage insects. Cooperative Economic Insect Report 11(9):118-138.
- ANONYMOUS. 1961b. Summary of insect conditions – 1960, truck crop insects. Cooperative Economic Insect Report 11(11):159-179.
- ANONYMOUS. 1961c. Summary of insect conditions – 1960, cotton insects. Cooperative Economic Insect Report 11(11):180-186.
- ANONYMOUS. 1961d. A flea beetle (*Altica torquata*). Cooperative Economic Insect Report 11(13):227.
- ANONYMOUS. 1961e. Cucumber beetles (*Diabrotica* spp.). Cooperative Economic Insect Report 11(14):261.
- ANONYMOUS. 1961f. Corn flea beetle (*Chaetocnema pulicaria*). Cooperative Economic Insect Report 11(15):288.
- ANONYMOUS. 1961g. Alder flea beetle (*Altica ambiens*). Cooperative Economic Insect Report 11(15):296.
- ANONYMOUS. 1961h. Corn flea beetles (*Chaetocnema* spp.). Cooperative Economic Insect Report 11(16):316.
- ANONYMOUS. 1961i. Corn rootworms (*Diabrotica* spp.). Cooperative Economic Insect Report 11(20):400.
- ANONYMOUS. 1961j. A flea beetle (*Altica torquata*). Cooperative Economic Insect Report 11(20):402.
- ANONYMOUS. 1961k. A leaf beetle (*Gastrophysa cyanea caesia*). Cooperative Economic Insect Report 11(20):404.
- ANONYMOUS. 1961l. Southern corn rootworm (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 11(22):449.
- ANONYMOUS. 1961m. Southern corn rootworm (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 11(23):473.
- ANONYMOUS. 1961n. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 11(24):498.
- ANONYMOUS. 1961o. Colorado potato beetle (*Leptinotarsa decemlineata*). Cooperative Economic Insect Report 11(26):570.
- ANONYMOUS. 1961p. Red turnip beetle (*Entomoscelis americana*). Cooperative Economic Insect Report 11(28):640.
- ANONYMOUS. 1961q. A leaf beetle (*Anomoea laticlavata*). Cooperative Economic Insect Report 11(30):697.
- ANONYMOUS. 1961r. Insects not known to occur in the United States, flea beetles (*Chaetocnema* spp.). Cooperative Economic Insect Report 11(37):879-882.
- ANONYMOUS. 1961s. Alder flea beetle (*Altica ambiens*). Cooperative Economic Insect Report 11(41):952.
- ANONYMOUS. 1961t. Summary of insect conditions – 1960, ornamental and shade tree insects. Cooperative Economic Insect Report 11(43):996-1012.
- ANONYMOUS. 1961u. Interceptions of special interest at U. S. ports of entry. Cooperative Economic Insect Report 11(47):1082.
- ANONYMOUS. 1961v. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 11(48):1089.

- ANONYMOUS. 1962a. Status of some important insects in the United States, yellow-margined leaf beetle (*Microtheca ochroloma* Stal). Cooperative Economic Insect Report 12(8):109-110.
- ANONYMOUS. 1962b. Summary of insect conditions – 1961, cereal and forage insects. Cooperative Economic Insect Report 12(9):118-158.
- ANONYMOUS. 1962c. Southern corn rootworm (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 12(10):162.
- ANONYMOUS. 1962d. Summary of insect conditions – 1961, fruit insects. Cooperative Economic Insect Report 12(10):167-190.
- ANONYMOUS. 1962e. Summary of insect conditions – 1961, truck crop insects. Cooperative Economic Insect Report 12(11):200-223.
- ANONYMOUS. 1962f. Summary of insect conditions – 1961, cotton insects. Cooperative Economic Insect Report 12(11):225-232.
- ANONYMOUS. 1962g. Summary of insect conditions – 1961, ornamental and shade tree insects. Cooperative Economic Insect Report 12(14):315-338.
- ANONYMOUS. 1962h. Elm leaf beetle (*Galerucella xanthomelaena*). Cooperative Economic Insect Report 12(17):417.
- ANONYMOUS. 1962i. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 12(21):523.
- ANONYMOUS. 1962j. Flea beetles. Cooperative Economic Insect Report 12(26):686.
- ANONYMOUS. 1962k. A leaf beetle (*Maecolaspis favosa*). Cooperative Economic Insect Report 12(27):738.
- ANONYMOUS. 1962l. Flea beetles. Cooperative Economic Insect Report 12(32):892.
- ANONYMOUS. 1962m. Cucumber beetles. Cooperative Economic Insect Report 12(35):970.
- ANONYMOUS. 1962n. Northern corn rootworm (*Diabrotica longicornis*). Cooperative Economic Insect Report 12(36):991.
- ANONYMOUS. 1962o. Status of some important insects in the United States, tobacco flea beetle (*Epitrix hirtipennis* (Melsheimer)). Cooperative Economic Insect Report 12(38):1045-1046.
- ANONYMOUS. 1962p. A leaf beetle (*Lema nigrovittata*). Cooperative Economic Insect Report 12(41):1097.
- ANONYMOUS. 1962q. A leaf beetle (*Lema nigrovittata*). Cooperative Economic Insect Report 12(42):1119.
- ANONYMOUS. 1963a. Watch for the Cereal Leaf Beetle. United States Government Printing Office. 4 pages.
- ANONYMOUS. 1963b. Summary of insect conditions, cereal and forage insects. Cooperative Economic Insect Report 13(9):144-175.
- ANONYMOUS. 1963c. Summary of insect conditions – 1962, truck crop insects. Cooperative Economic Insect Report 13(11):224-246.
- ANONYMOUS. 1963d. Elm leaf beetle (*Galerucella xanthomelaena*). Cooperative Economic Insect Report 13(14):320.
- ANONYMOUS. 1963e. A flea beetle (*Altica torquata*). Cooperative Economic Insect Report 13(21):560.
- ANONYMOUS. 1963f. Potato flea beetle (*Epitrix cucumeris*). Cooperative Economic Insect Report 13(23):612.
- ANONYMOUS. 1963g. Potato flea beetle (*Epitrix cucumeris*). Cooperative Economic Insect Report 13(24):646.
- ANONYMOUS. 1963h. Tobacco flea beetle (*Epitrix hirtipennis*). Cooperative Economic Insect Report 13(24):648.
- ANONYMOUS. 1963i. Potato flea beetle (*Epitrix cucumeris*). Cooperative Economic Insect Report 13(26):714.
- ANONYMOUS. 1963j. Leaf beetles, North Dakota. Cooperative Economic Insect Report 13(26):723.
- ANONYMOUS. 1963k. A flea beetle (*Systema frontalis*). Cooperative Economic Insect Report 13(27):744.
- ANONYMOUS. 1963l. Leaf beetles. Cooperative Economic Insect Report 13(27):761.
- ANONYMOUS. 1963m. Locust leaf miner (*Xenochalepus dorsalis*). Cooperative Economic Insect Report 13(28):797.
- ANONYMOUS. 1963n. Western spotted cucumber beetle (*Diabrotica undecimpunctata undecimpunctata*). Cooperative Economic Insect Report 13(29):834.
- ANONYMOUS. 1963o. Three-spotted flea beetle (*Disonycha triangularis*). Cooperative Economic Insect Report 13(30):853.
- ANONYMOUS. 1963p. Three-line potato beetle (*Lema trilineata*). Cooperative Economic Insect Report 13(33):961.
- ANONYMOUS. 1963q. A flea beetle (*Epitrix brevis*). Cooperative Economic Insect Report 13(39):1154.
- ANONYMOUS. 1963r. Flea beetles. Cooperative Economic Insect Report 13(40):1174.
- ANONYMOUS. 1963s. A leaf beetle (*Disonycha limbicollis*). Cooperative Economic Insect Report 13(43):1270.
- ANONYMOUS. 1963t. A spotted cucumber beetle (*Diabrotica undecimpunctata tenella*). Cooperative Economic Insect Report 13(45):1316.
- ANONYMOUS. 1964a. Insect detection in the United States – 1963. Cooperative Economic Insect Report 14(4):56-60.
- ANONYMOUS. 1964b. Summary of insect conditions in the United States – 1963, nut crop insects. Cooperative Economic Insect Report 14(11):197-199.
- ANONYMOUS. 1964c. Summary of insect conditions in the United States – 1963, grape insects. Cooperative Economic Insect Report 14(11):199-200.
- ANONYMOUS. 1964d. Summary of insect conditions in Hawaii. Cooperative Economic Insect Report 14(12):220-223.
- ANONYMOUS. 1964e. Summary of insect conditions in the United States – 1963, tobacco insects. Cooperative Economic Insect Report 14(12):224-226.
- ANONYMOUS. 1964f. Summary of insect conditions in the United States – 1963, truck crop insects. Cooperative Economic Insect Report 14(13):247-270.
- ANONYMOUS. 1964g. Tobacco flea beetle (*Epitrix hirtipennis*). Cooperative Economic Insect Report 14(17):371.

Literature Cited

- ANONYMOUS. 1964h. A flea beetle (*Altica torquata*). Cooperative Economic Insect Report 14(20):479.
- ANONYMOUS. 1964i. Locust leaf miner (*Xenochalepus dorsalis*). Cooperative Economic Insect Report 14(21):506.
- ANONYMOUS. 1964j. Potato flea beetle (*Epitrix cucumeris*). Cooperative Economic Insect Report 14(23):576.
- ANONYMOUS. 1964k. Locust leaf miner (*Xenochalepus dorsalis*). Cooperative Economic Insect Report 14(23):583.
- ANONYMOUS. 1964l. Potato flea beetle (*Epitrix cucumeris*). Cooperative Economic Insect Report 14(25):651.
- ANONYMOUS. 1964m. Three-lined potato beetle (*Lema trilineata*). Cooperative Economic Insect Report 14(28):773.
- ANONYMOUS. 1964n. Western spotted cucumber beetle (*Diabrotica undecimpunctata undecimpunctata*). Cooperative Economic Insect Report 14(31):873.
- ANONYMOUS. 1964o. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 14(34):966.
- ANONYMOUS. 1964p. A leaf beetle (*Anoplitis inaequalis*). Cooperative Economic Insect Report 14(34):979.
- ANONYMOUS. 1964q. A flea beetle (*Systema taeniata*). Cooperative Economic Insect Report 14(35):998.
- ANONYMOUS. 1964r. Northern corn rootworm (*Diabrotica longicornis*). Cooperative Economic Insect Report 14(36):1018.
- ANONYMOUS. 1964s. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 14(45):1208.
- ANONYMOUS. 1964t. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 14(45):1210.
- ANONYMOUS. 1964u. Western spotted cucumber beetle (*Diabrotica undecimpunctata undecimpunctata*). Cooperative Economic Insect Report 14(51):1294.
- ANONYMOUS. 1965a. Summary of insect conditions in the United States – 1964; corn, sorghum and sugarcane insects. Cooperative Economic Insect Report 15(10):152-168.
- ANONYMOUS. 1965b. Golden tortoise beetle (*Metriona bicolor*). Cooperative Economic Insect Report 15(13):244.
- ANONYMOUS. 1965c. Summary of insect conditions in the United States – 1964, truck crop insects. Cooperative Economic Insect Report 15(13):251-272.
- ANONYMOUS. 1965d. A flea beetle (*Blepharida rhois*). Cooperative Economic Insect Report 15(16):343.
- ANONYMOUS. 1965e. Corn flea beetle (*Chaetocnema pulicaria*). Cooperative Economic Insect Report 15(18):417.
- ANONYMOUS. 1965f. Locust leaf miner (*Xenochalepus dorsalis*). Cooperative Economic Insect Report 15(21):508.
- ANONYMOUS. 1965g. A leaf beetle (*Chrysomela interrupta*). Cooperative Economic Insect Report 15(21):516.
- ANONYMOUS. 1965h. Additional notes, Oklahoma. Cooperative Economic Insect Report 15(22):546.
- ANONYMOUS. 1965i. Desert corn flea beetle (*Chaetocnema ectypa*). Cooperative Economic Insect Report 15(22):547.
- ANONYMOUS. 1965j. Elm leaf beetle (*Galerucella xanthomelaena*). Cooperative Economic Insect Report 15(23):582.
- ANONYMOUS. 1965k. Red turnip beetle (*Entomoscelis americana*). Cooperative Economic Insect Report 15(25):655.
- ANONYMOUS. 1965l. Flea beetles. Cooperative Economic Insect Report 15(28):749.
- ANONYMOUS. 1965m. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 15(30):824.
- ANONYMOUS. 1965n. Striped flea beetle (*Phyllotreta striolata*). Cooperative Economic Insect Report 15(30):824.
- ANONYMOUS. 1965o. Flea beetles. Cooperative Economic Insect Report 15(35):1004.
- ANONYMOUS. 1965p. Southern corn rootworm (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 15(35):1004.
- ANONYMOUS. 1965q. Northern corn rootworm (*Diabrotica longicornis*). Cooperative Economic Insect Report 15(36):1030.
- ANONYMOUS. 1965r. Leaf beetles. Cooperative Economic Insect Report 15(36):1047.
- ANONYMOUS. 1965s. Northern corn rootworm (*Diabrotica longicornis*). Cooperative Economic Insect Report 15(38):1092.
- ANONYMOUS. 1965t. A leaf beetle (*Lema trilineata trivittata*). Cooperative Economic Insect Report 15(39):1124.
- ANONYMOUS. 1965u. Flea beetles. Cooperative Economic Insect Report 15(40):1141.
- ANONYMOUS. 1965v. Desert corn flea beetle (*Chaetocnema ectypa*). Cooperative Economic Insect Report 15(45):1242.
- ANONYMOUS. 1966a. A flea beetle (*Chaetocnema opacula*). Cooperative Economic Insect Report 16(3):33.
- ANONYMOUS. 1966b. Summary of insect conditions in the United States – 1965, nut crop insects. Cooperative Economic Insect Report 16(9):161-163.
- ANONYMOUS. 1966c. Summary of insect conditions in the United States – 1965, eggplant, pepper, potato and tomato insects. Cooperative Economic Insect Report 16(10):177-181.
- ANONYMOUS. 1966d. Summary of insect conditions in the United States – 1965, bean, pea and legume insects. Cooperative Economic Insect Report 16(10):183-185.
- ANONYMOUS. 1966e. Summary of insect conditions in the United States – 1965, beet, sugar beet and spinach insects. Cooperative Economic Insect Report 16(10):185-186.
- ANONYMOUS. 1966f. Summary of insect conditions in the United States – 1965, cucurbit insects. Cooperative Economic Insect Report 16(10):187.
- ANONYMOUS. 1966g. Desert corn flea beetle (*Chaetocnema ectypa*). Cooperative Economic Insect Report 16(13):242.
- ANONYMOUS. 1966h. Grape flea beetle (*Altica chalybea*). Cooperative Economic Insect Report 16(14):277.
- ANONYMOUS. 1966i. Desert corn flea beetle (*Chaetocnema ectypa*). Cooperative Economic Insect Report 16(14):278.
- ANONYMOUS. 1966j. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 16(18):388.

- ANONYMOUS. 1966k. A leaf beetle (*Chrysomela interrupta*). Cooperative Economic Insect Report 16(19):415.
- ANONYMOUS. 1966l. A flea beetle (*Altica bimarginata*). Cooperative Economic Insect Report 16(24):553.
- ANONYMOUS. 1966m. Corn rootworms (*Diabrotica* spp.). Cooperative Economic Insect Report 16(25):569.
- ANONYMOUS. 1966n. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 16(27):636.
- ANONYMOUS. 1966o. Hawaii insect report, miscellaneous insects. Cooperative Economic Insect Report 16(27):656.
- ANONYMOUS. 1966p. Flea beetles. Cooperative Economic Insect Report 16(32):773.
- ANONYMOUS. 1966q. Desert corn flea beetle (*Chaetocnema ectypa*). Cooperative Economic Insect Report 16(33):802.
- ANONYMOUS. 1966r. Corn rootworms (*Diabrotica* spp.). Cooperative Economic Insect Report 16(37):900.
- ANONYMOUS. 1966s. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 16(37):902.
- ANONYMOUS. 1966t. Corn rootworms (*Diabrotica* spp.). Cooperative Economic Insect Report 16(39):935.
- ANONYMOUS. 1966u. Western striped cucumber beetle (*Acalymma trivittata*). Cooperative Economic Insect Report 16(42):990.
- ANONYMOUS. 1966v. Corn rootworms (*Diabrotica* spp.). Cooperative Economic Insect Report 16(43):1012.
- ANONYMOUS. 1966w. Desert corn flea beetle (*Chaetocnema ectypa*). Cooperative Economic Insect Report 16(46):1065.
- ANONYMOUS. 1967a. Desert corn flea beetle (*Chaetocnema ectypa*). Cooperative Economic Insect Report 17(5):59.
- ANONYMOUS. 1967b. Summary of insect conditions in Hawaii – 1966. Cooperative Economic Insect Report 17(5):64-66.
- ANONYMOUS. 1967c. Desert corn flea beetle (*Chaetocnema ectypa*). Cooperative Economic Insect Report 17(7):90.
- ANONYMOUS. 1967d. Summary of insect conditions in the United States – 1966; corn, sorghum, and sugarcane. Cooperative Economic Insect Report 17(9):137-142.
- ANONYMOUS. 1967e. Summary of insect conditions in the United States – 1966; turf, pastures, rangeland. Cooperative Economic Insect Report 17(9):146-148.
- ANONYMOUS. 1967f. Summary of insect conditions in the United States – 1966, forage legumes. Cooperative Economic Insect Report 17(10):159-164.
- ANONYMOUS. 1967g. Summary of insect conditions in the United States – 1966; potatoes, tomatoes, peppers. Cooperative Economic Insect Report 17(12):204-207.
- ANONYMOUS. 1967h. Summary of insect conditions in the United States – 1966, peas and beans. Cooperative Economic Insect Report 17(12):207-208.
- ANONYMOUS. 1967i. Summary of insect conditions in the United States – 1966, cole crops. Cooperative Economic Insect Report 17(12):209-210.
- ANONYMOUS. 1967j. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 17(15):280.
- ANONYMOUS. 1967k. Corn flea beetle (*Chaetocnema pulicaria*). Cooperative Economic Insect Report 17(20):404.
- ANONYMOUS. 1967l. A leaf beetle (*Trirhabda geminata*). Cooperative Economic Insect Report 17(21):443.
- ANONYMOUS. 1967m. Corn flea beetle (*Chaetocnema pulicaria*). Cooperative Economic Insect Report 17(23):478.
- ANONYMOUS. 1967n. A flea beetle (*Systema bitaeniata*). Cooperative Economic Insect Report 17(24):507.
- ANONYMOUS. 1967o. Tobacco flea beetle (*Epitrix hirtipennis*). Cooperative Economic Insect Report 17(33):763.
- ANONYMOUS. 1967p. A flea beetle (*Systema frontalis*). Cooperative Economic Insect Report 17(34):790.
- ANONYMOUS. 1967q. Northern corn rootworm (*Diabrotica longicornis*). Cooperative Economic Insect Report 17(35):814.
- ANONYMOUS. 1967r. Elm leaf beetle (*Pyrrhalta luteola*). Cooperative Economic Insect Report 17(36):837.
- ANONYMOUS. 1967s. Northern corn rootworm (*Diabrotica longicornis*). Cooperative Economic Insect Report 17(38):876.
- ANONYMOUS. 1967t. Sweetpotato flea beetle (*Chaetocnema confinis*). Cooperative Economic Insect Report 17(41):922.
- ANONYMOUS. 1967u. A flea beetle (*Epitrix similis*). Cooperative Economic Insect Report 17(43):957.
- ANONYMOUS. 1967v. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 17(49):1043.
- ANONYMOUS. 1968a. Summary of insect conditions in Hawaii. Cooperative Economic Insect Report 18(7):82-85.
- ANONYMOUS. 1968b. Summary of insect conditions in the United States – 1967, small grains. Cooperative Economic Insect Report 18(8):114-117.
- ANONYMOUS. 1968c. Summary of insect conditions in the United States – 1967, turf, pastures, rangeland. Cooperative Economic Insect Report 18(8):118-121.
- ANONYMOUS. 1968d. Summary of insect conditions in the United States – 1967, forage legumes. Cooperative Economic Insect Report 18(9):131-139.
- ANONYMOUS. 1968e. Summary of insect conditions in the United States – 1967, sugarbeets. Cooperative Economic Insect Report 18(10):156-157.
- ANONYMOUS. 1968f. Summary of insect conditions in the United States – 1967, beans and peas. Cooperative Economic Insect Report 18(10):162-164.
- ANONYMOUS. 1968g. Summary of insect conditions in the United States – 1967, cole crops. Cooperative Economic Insect Report 18(10):164-166.
- ANONYMOUS. 1968h. Summary of insect conditions in the United States – 1967, general vegetables. Cooperative Economic Insect Report 18(10):168-170.

Literature Cited

- ANONYMOUS. 1968i. Desert corn flea beetle (*Chaetocnema ectypa*). Cooperative Economic Insect Report 18(16):306.
- ANONYMOUS. 1968j. Desert corn flea beetle (*Chaetocnema ectypa*). Cooperative Economic Insect Report 18(17):326.
- ANONYMOUS. 1968k. Colorado potato beetle (*Leptinotarsa decemlineata*). Cooperative Economic Insect Report 18(23):494.
- ANONYMOUS. 1968l. Flea beetles. Cooperative Economic Insect Report 18(26):584.
- ANONYMOUS. 1968m. A leaf beetle (*Luperodes bivittatus*). Cooperative Economic Insect Report 18(26):588.
- ANONYMOUS. 1968n. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 18(29):670.
- ANONYMOUS. 1968o. A leaf beetle (*Phytodecta pallida*). Cooperative Economic Insect Report 18(29):670.
- ANONYMOUS. 1968p. Northern corn rootworm (*Diabrotica longicornis*). Cooperative Economic Insect Report 18(37):882.
- ANONYMOUS. 1968q. A flea beetle (*Altica torquata*). Cooperative Economic Insect Report 18(41):962.
- ANONYMOUS. 1968r. European potato flea beetle (*Psylliodes affinis* (Paykull)). Cooperative Economic Insect Report 18(41):965.
- ANONYMOUS. 1968s. Three-lined potato beetle (*Lema trilineata*). Cooperative Economic Insect Report 18(43):1004.
- ANONYMOUS. 1968t. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 18(44):1034.
- ANONYMOUS. 1968u. Tuber flea beetle (*Epitrix tuberis*). Cooperative Economic Insect Report 18(49):1097.
- ANONYMOUS. 1969a. Summary of insect conditions in the United States – 1968, corn, sorghum, sugarcane. Cooperative Economic Insect Report 19(9):130-139.
- ANONYMOUS. 1969b. Summary of insect conditions in the United States – 1968, sugarbeets. Cooperative Economic Insect Report 19(11):177.
- ANONYMOUS. 1969c. Summary of insect conditions in the United States – 1968, potatoes, tomatoes, peppers. Cooperative Economic Insect Report 19(11):178-181.
- ANONYMOUS. 1969d. Summary of insect conditions in the United States – 1968, beans and peas. Cooperative Economic Insect Report 19(11):181-182.
- ANONYMOUS. 1969e. Summary of insect conditions in the United States – 1968, small fruits. Cooperative Economic Insect Report 19(12):205-206.
- ANONYMOUS. 1969f. Desert corn flea beetle (*Chaetocnema ectypa*). Cooperative Economic Insect Report 19(13):213.
- ANONYMOUS. 1969g. Summary of insect conditions in the United States – 1968, shade trees. Cooperative Economic Insect Report 19(13):226-232.
- ANONYMOUS. 1969h. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 19(15):265.
- ANONYMOUS. 1969i. Sweetpotato flea beetle (*Chaetocnema confinis*). Cooperative Economic Insect Report 19(30):571.
- ANONYMOUS. 1969j. Colorado potato beetle (*Leptinotarsa decemlineata*). Cooperative Economic Insect Report 19(30):575.
- ANONYMOUS. 1969k. Southern corn rootworm (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 19(34):661.
- ANONYMOUS. 1969l. Desert corn flea beetle (*Chaetocnema ectypa*). Cooperative Economic Insect Report 19(35):680.
- ANONYMOUS. 1969m. Sweetpotato flea beetle (*Chaetocnema confinis*). Cooperative Economic Insect Report 19(37):716.
- ANONYMOUS. 1969n. Three-lined potato beetle (*Lema trilineata*). Cooperative Economic Insect Report 19(37):719.
- ANONYMOUS. 1969o. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 19(43):802.
- ANONYMOUS. 1969p. Chrysomelid beetles. Cooperative Economic Insect Report 19(43):805.
- ANONYMOUS. 1969q. A leaf beetle (*Anomoea laticlavata*). Cooperative Economic Insect Report 19(45):827.
- ANONYMOUS. 1969r. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 19(47):845.
- ANONYMOUS. 1969s. Three-lined potato beetle (*Lema trilineata*). Cooperative Economic Insect Report 19(49):861.
- ANONYMOUS. 1969t. Tuber flea beetle (*Epitrix tuberis*). Cooperative Economic Insect Report 19(51):897.
- ANONYMOUS. 1969u. Tuber flea beetle (*Epitrix tuberis*). Cooperative Economic Insect Report 19(52):906.
- ANONYMOUS. 1970a. Summary of insect conditions in the United States – 1969, sugarbeets. Cooperative Economic Insect Report 20(10):149-150.
- ANONYMOUS. 1970b. Summary of insect conditions in the United States – 1969, potatoes, tomatoes, peppers. Cooperative Economic Insect Report 20(11):160-162.
- ANONYMOUS. 1970c. Summary of insect conditions in the United States – 1969, forest and shade trees. Cooperative Economic Insect Report 20(14):217-227.
- ANONYMOUS. 1970d. Cereal leaf beetle (*Oulema melanopus*), West Virginia. Cooperative Economic Insect Report 20(25):411.
- ANONYMOUS. 1970e. A leaf beetle (*Oulema palustris*). Cooperative Economic Insect Report 20(31):535.
- ANONYMOUS. 1970f. Chrysomelid beetles. Cooperative Economic Insect Report 20(32):559.
- ANONYMOUS. 1970g. Colorado potato beetle (*Leptinotarsa decemlineata*). Cooperative Economic Insect Report 20(35):626.

- ANONYMOUS. 1970h. Northern corn rootworm (*Diabrotica longicornis*). Cooperative Economic Insect Report 20(37):654.
- ANONYMOUS. 1970i. Corn rootworms (*Diabrotica* spp.). Cooperative Economic Insect Report 20(37):655-656.
- ANONYMOUS. 1970j. Corn rootworms (*Diabrotica* spp.). Cooperative Economic Insect Report 20(38):670.
- ANONYMOUS. 1970k. Sweetpotato flea beetle (*Chaetocnema confinis*). Cooperative Economic Insect Report 20(38):671.
- ANONYMOUS. 1970l. Corn rootworms (*Diabrotica* spp.). Cooperative Economic Insect Report 20(38):671.
- ANONYMOUS. 1970m. A spotted cucumber beetle (*Diabrotica undecimpunctata tenella*). Cooperative Economic Insect Report 20(38):673.
- ANONYMOUS. 1970n. Corn rootworms (*Diabrotica* spp.). Cooperative Economic Insect Report 20(41):710.
- ANONYMOUS. 1970o. Tobacco flea beetle (*Epitrix hirtipennis*). Cooperative Economic Insect Report 20(41):711.
- ANONYMOUS. 1971a. Insect detection in the United States – 1970. Cooperative Economic Insect Report 21(1):6-14.
- ANONYMOUS. 1971b. Summary of insect conditions in the United States – 1970, corn, sorghum, sugarcane. Cooperative Economic Insect Report 21(11):142-153.
- ANONYMOUS. 1971c. Summary of insect conditions in the United States – 1970, sugar beets. Cooperative Economic Insect Report 21(12):183-184.
- ANONYMOUS. 1971d. Summary of insect conditions in the United States – 1970, beans and peas. Cooperative Economic Insect Report 21(13):198-200.
- ANONYMOUS. 1971e. Summary of insect conditions in the United States – 1970, ornamentals. Cooperative Economic Insect Report 21(16):267-271.
- ANONYMOUS. 1971f. Summary of insect conditions in the United States – 1970, forest and shade trees. Cooperative Economic Insect Report 21(16):275-287.
- ANONYMOUS. 1971g. Sweetpotato flea beetle (*Chaetocnema confinis*). Cooperative Economic Insect Report 21(22):373.
- ANONYMOUS. 1971h. Desert corn flea beetle (*Chaetocnema ectypa*). Cooperative Economic Insect Report 21(23):390.
- ANONYMOUS. 1971i. Southern corn rootworm (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 21(25):427.
- ANONYMOUS. 1973. Palestriped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 23(25):381.
- ANONYMOUS. 1974a. Corn rootworms (*Diabrotica* spp.). Cooperative Economic Insect Report 24(44):837.
- ANONYMOUS. 1974b. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 24(44):839.
- ANONYMOUS. 1975a. Summary of insect conditions in the United States – 1974. Cooperative Economic Insect Report 25(12):213-227.
- ANONYMOUS. 1975b. Western corn rootworm (*Diabrotica virgifera*). Cooperative Economic Insect Report 25(22):438.
- ANONYMOUS. 1975c. Northern corn rootworm (*Diabrotica longicornis*). Cooperative Economic Insect Report 25(22):443.
- ANONYMOUS. 1976a. Summary of insect conditions in the United States – 1975. Cooperative Plant Pest Report 1(40):683-712.
- ANONYMOUS. 1976b. Summary of insect conditions in the United States – 1975. Cooperative Plant Pest Report 1(41):723-745.
- ANONYMOUS. 1977a. Red turnip beetle (*Entomoscelis americana* Brown). Canada Department of Agriculture, Insect Identification Sheet 18:1-2.
- ANONYMOUS. 1977b. Pest detection in the United States – 1976. Cooperative Plant Pest Report 2(1-4):17-23.
- ANONYMOUS. 1977c. Summary of pest conditions in the United States – 1976. Cooperative Plant Pest Report 2(13):174-178.
- ANONYMOUS. 1977d. Summary of pest conditions in the United States – 1976. Cooperative Plant Pest Report 2(16):226-238.
- ANONYMOUS. 1979. A guide to common insects and diseases of forests in the northeastern United States. United States Department of Agriculture, Forest Service, Northeastern Area, State and Private Forestry Publication NA-FR-4:1-126.
- ANONYMOUS. 1980. Summary of pest conditions in the United States – 1979. Cooperative Plant Pest Report 5(6):132-138.
- ANONYMOUS. 1985. Insects of eastern forests. United States Department of Agriculture, Forest Service, Miscellaneous Publication 1426:1-608.
- ANONYMOUS. 1989. Insects and diseases of trees in the South. United States Department of Agriculture, Forest Service, Southern Region, Protection Report R8-PR 16:98.
- ANONYMOUS. 1994. Fact Sheet, Cereal Leaf Beetle. United States Department of Agriculture, Animal and Plant Health Inspection Service, Plant Protection and Quarantine. 2 pages.
- ANONYMOUS. 1999a. Viburnum leaf beetle infests New York. American Nurseryman 189(5):8.
- ANONYMOUS. 1999b. Lily leaf beetle, *Lilioceris lili* Coleoptera: Chrysomelidae. University of Rhode Island, Cooperative Extension Service, GreenShare. 2 pages.
- ANONYMOUS. 2000a. Viburnum leaf beetle threatens to infest Pennsylvania. American Nurseryman 192(3):8.
- ANONYMOUS. 2000b. Viburnum leaf beetle threatens to infest Pennsylvania. The Southwestern Ohio Environmental Horticulture Association, Newsletter 24(4):6-8.
- ANONYMOUS. 2001a. Beetle takes a bite out of Illinois purple loosestrife population. American Nurseryman 193(12):12.

Literature Cited

- ANONYMOUS. 2001b. A great summer for bugs. Minnesota Department of Natural Resources, Division of Forestry, Forest Insect & Disease Newsletter, August 29, 2001, pages 1-8.
- ANONYMOUS. 2001c. Chinese beetle released as biocontrol agent. American Nurseryman 194(9):12.
- ANONYMOUS. 2002. Taking the bite out of beetles. Utah Science 61(2):8-13.
- ARANT, F. S. 1929. Biology and control of the southern corn rootworm. Alabama Agricultural Experiment Station Bulletin 230:1-46.
- ARANT, F. S. 1954. Bean leaf beetle (*Cerotoma trifurcata*). Cooperative Economic Insect Report 4(20):406.
- ARNETT, R. H. 1962. Chrysomelidae (Latreille, 1802), the leaf beetles. The Beetles of the United States 104:899-950.
- ARNETT, R. H. 1976. The sacred datura beetle. Insect World Digest 3(3):14-15.
- ARNETT, R. H. 1985. American Insects, a Handbook of the Insects of America North of Mexico. Van Nostrand Reinhold Company, New York. 850 pages.
- ARNETT, R. H. AND R. L. JACQUES. 1981. Simon & Schuster's Guide to Insects. Simon & Schuster, New York. 513 pages.
- ARNOTT, D. A. 1957 (1956). Occurrence of *Trirhabda pilosa* Blake (Coleoptera: Chrysomelidae) on sagebrush in British Columbia, with notes on life-history. Proceedings of the Entomological Society of British Columbia 53:14-15.
- ARTHUR, B. W. AND F. S. ARANT. 1956. Control of soil insects attacking peanuts. Journal of Economic Entomology 49(1):68-71.
- ASHMEAD, W. H. 1890. Report on an outbreak of the army worm, and on some other insects affecting grain, in Maryland. Insect Life 3(2):53-57.
- ASHMEAD, W. H. 1894. Notes on cotton insects found in Mississippi. Insect Life 7:25-29, 240-247.
- ASKEVOLD, I. S. 1987. The identity of *Donacia cuprea* Kirby, 1837, and *Donacia quadricollis* Say, 1827, with a taxonomic revision of members of the *Donacia subtilis* Kunze-group (Coleoptera: Chrysomelidae: Donaciinae). The Canadian Entomologist 119:629-645.
- ASKEVOLD, I. S. 1988. The genus *Neohaemonia* Székessy in North America (Coleoptera: Chrysomelidae: Donaciinae): Systematics, reconstructed phylogeny, and geographical history. Transactions of the American Entomological Society 113:360-430.
- ASKEVOLD, I. S. 1990a. Reconstructed phylogeny and reclassification of the genera of Donaciinae (Coleoptera: Chrysomelidae). Quaestiones Entomologicae 26(4):601-664.
- ASKEVOLD, I. S. 1990b. Classification of Tertiary fossil Donaciinae of North America and their implications about evolution of Donaciinae (Coleoptera: Chrysomelidae). Canadian Journal of Zoology 68(10):2135-2145.
- ASKEVOLD, I. S. 1991a. Classification, reconstructed phylogeny, and geographic history of the New World members of *Plateumaris* Thomson, 1859 (Coleoptera: Chrysomelidae: Donaciinae). Memoirs of the Entomological Society of Canada 157:1-175.
- ASKEVOLD, I. S. 1991b. An annotated list of Nearctic Donaciinae (Coleoptera: Chrysomelidae): The generic classification and type specimens of the New World species. Psyche 98(2-3):165-192.
- ASLAN, İ., H. ÖZBEK, AND A. KONSTANTINOV. 2003. Flea beetles (Coleoptera: Chrysomelidae) occurring on *Amaranthus retroflexus* L. in Erzurum Province, Turkey, and their potential as biological control agents. Proceedings of the Entomological Society of Washington 105(2):441-446.
- ASLAN, İ. AND A. WARCHALOWSKI. 1998. New records of the subfamily Galerucinae (Coleoptera, Chrysomelidae) for the Turkish fauna. Zoology in the Middle East 16:1-3.
- ATHEY, L. A. AND E. F. CONNOR. 1989. The relationship between foliar nitrogen content and feeding by *Odontota dorsalis* Thun. on *Robinia pseudoacacia* L. Oecologia 79:390-394.
- ATKINS, M. D. 1964. *Altica tombacina* Mannerheim (Coleoptera: Chrysomelidae), a serious of pest of fireweed. Proceedings of the Entomological Society of British Columbia 61:44-45.
- AU, *. 1966. Hawaii insect report, beneficial insects. Cooperative Economic Insect Report 16(29):714.
- AU, *. 1967a. Hawaii insect report, ornamentals. Cooperative Economic Insect Report 17(21):450.
- AU, *. 1967b. Hawaii insect report, fruits. Cooperative Economic Insect Report 17(28):631.
- AU, * AND * IKEHARA. 1966. Hawaii insect report, general vegetables. Cooperative Economic Insect Report 16(39):948.
- AUGUSTIN, S., M. R. WAGNER, J. CHENAULT, AND K. M. CLANCY. 1997. Influence of pulp and paper mill wastewater on *Chrysomela scripta* (Coleoptera: Chrysomelidae) performance and *Populus* plant traits. Environmental Entomology 26(6):1327-1335.
- AUGUSTIN, S., M. R. WAGNER, AND K. M. CLANCY. 1994. *Chrysomela scripta* performance on five poplar clones. Norwegian Journal of Agricultural Sciences, Supplement 18:111-117.
- BACH, C. E. 1977. Distribution of *Acalymma vittata* and *Diabrotica virgifera* (Coleoptera: Chrysomelidae) on cucurbits. The Great Lakes Entomologist 10(3):123-125.
- BACH, C. E. 1980a. Effects of plant diversity and time of colonization on an herbivore-plant interaction. Oecologia 44:319-326.
- BACH, C. E. 1980b. Effects of plant density and diversity on the population dynamics of a specialist herbivore, the striped cucumber beetle, *Acalymma vittata* (Fab.). Ecology 61(6):1515-1530.
- BACH, C. E. 1981. Host plant growth and diversity: effects on abundance and feeding preference of a specialist herbivore, *Acalymma vittata* (Coleoptera: Chrysomelidae). Oecologia 50:370-375.
- BACH, C. E. 1990. Plant successional stage and insect herbivory: flea beetles on sand-dune willow. Ecology 71(2):598-609.

- BACH, C. E. 1993a. Effects of microclimate and plant characteristics on the distribution of a willow flea beetle, *Altica subplicata*. The American Midland Naturalist 130(1):193-208.
- BACH, C. E. 1993b. Movement behavior of *Altica subplicata* (Coleoptera: Chrysomelidae): larval orientation and movement. Journal of the Kansas Entomological Society 66(1):86-96.
- BACH, C. E. 1993c. Movement behavior of *Altica subplicata* (Coleoptera: Chrysomelidae): effects of plant characteristics on patterns of adult movement. Journal of the Kansas Entomological Society 66(3):310-318.
- BACH, C. E. 1994a. Effects of herbivory and genotype on growth and survivorship of sand-dune willow (*Salix cordata*). Ecological Entomology 19:303-309.
- BACH, C. E. 1994b. Effects of a specialist herbivore (*Altica subplicata*) on *Salix cordata* and sand dune succession. Ecological Monographs 64(4):423-445.
- BACH, C. E. AND D. S. CARR. 1990. Aggregation behavior of a willow flea beetle, *Altica subplicata* (Coleoptera: Chrysomelidae). The Great Lakes Entomologist 23(2):65-76.
- BAERG, W. J. 1929. Great elm leaf-beetle. University of Arkansas, College of Agriculture, Agricultural Experiment Station, Bulletin 246:50-51.
- BAERG, W. J. 1935. Three shade tree insects, II, great elm leaf-beetle, catalpa sphinx, and eastern tent caterpillar. University of Arkansas, College of Agriculture, Agricultural Experiment Station, Bulletin 317:1-28.
- BAERG, W. J. 1949. Introduction to Applied Entomology. Third Edition, Revised. Burgess Publishing Co., Minneapolis, Minnesota. 191 pages.
- BAILEY, T. E. AND L. T. KOK. 1978. Insects associated with horsenettle (*Solanum carolinense* L.) in southwest Virginia. Virginia Journal of Science 29(2):37.
- BAILEY, W. C., C. E. CARLSON, B. PUTTLER, AND C. R. STOLTENOW. 1991. Expansion of the range of the cereal leaf beetle, *Oulema melanopus* (L.) (Coleoptera: Chrysomelidae), in Missouri and Iowa. Journal of the Kansas Entomological Society 64(4):455-457.
- BAIN, A. AND L. LESAGE. 1998. A late seventeenth century occurrence of *Phyllotreta striolata* (Coleoptera: Chrysomelidae) in North America. The Canadian Entomologist 130:715-719.
- BAKER, C. F. 1895. Biological notes on some Colorado Coleoptera. Entomological News 6:27-29.
- BAKER, C. R. B., R. L. BLACKMAN, AND M. F. CLARIDGE. 1972. Studies on *Haltica corduorum* Guerin (Coleoptera: Chrysomelidae) an alien beetle released in Britain as a contribution to the biological control of creeping thistle, *Cirsium arvense* (L.) Scop. The Journal of Applied Ecology 9(3):819-830.
- BAKER, T. C. AND G. C. EICKWORT. 1975. Development and bionomics of *Chrysomelobia labidomeræ* (Acari: Tarsonimina: Podapolipidae), a parasite of the milkweed leaf beetle (Coleoptera: Chrysomelidae). The Canadian Entomologist 107:627-638.
- BAKER, W. L. 1928. The potato flea-beetle and other potato insects. Proceedings of the Annual Meeting of the Western Washington Horticultural Society 23:209-211.
- BAKER, W. L. 1972. Eastern forest insects. United States Department of Agriculture, Forest Service, Miscellaneous Publication 1175:1-642.
- BAKER, W. W. 1928. Potato flea beetle. Western Washington Experiment Station, Bulletin 10-W:13-14.
- BALDUF, W. V. 1923. The insects of the soybean in Ohio. Bulletin of the Ohio Agricultural Experiment Station 366:147-181.
- BALDUF, W. V. 1925. The striped cucumber beetle *Diabrotica vittata* Fabr. Bulletin of the Ohio Agricultural Experiment Station 388:241-311.
- BALDUF, W. V. 1926. The *Acalypha* flea beetle (*Crepidodera atriventris* Melsh.). Journal of Economic Entomology 19(4):624-632.
- BALDUF, W. V. 1929. The life history of the goldenrod beetle, *Trirhabda canadensis* Kirby (Coleop.: Chrysomelidae). Entomological News 40(2):35-39.
- BALL, H. J. 1957. On the biology and egg-laying habits of the western corn rootworm. Journal of Economic Entomology 50(2):126-128.
- BALLOU, C. H. 1928. An observation on mating habits of *Leptinotarsa undecimlineata*. Journal of Economic Entomology 21(1):235-236.
- BALLOU, C. H. 1936. Insect notes from Costa Rica in 1935. United States Department of Agriculture, Bureau of Entomology and Plant Quarantine, The Insect Pest Survey Bulletin 16(supplement to number 9):437-497.
- BALSBAUGH, E. U. 1966. Genus *Lexiphanes* of America north of Mexico (Coleoptera: Chrysomelidae). Proceedings of the United States National Museum 117:655-680.
- BALSBAUGH, E. U. 1967. Possible mimicry between certain Carabidae and Chrysomelidae. The Coleopterists' Bulletin 21:139-140.
- BALSBAUGH, E. U. 1970. Review of the genus *Paria* (Coleoptera: Chrysomelidae) of North America. Annals of the Entomological Society of America 63(2):453-460.
- BALSBAUGH, E. U. 1973. Geographical variation in *Pachybrachis othonus* (Coleoptera: Chrysomelidae) with descriptions of a new subspecies. Annals of the Entomological Society of America 66(2):252-261.
- BALSBAUGH, E. U. 1978. A second species of *Microtheca* Stål (Coleoptera: Chrysomelidae) found in North America. The Coleopterists Bulletin 32(3):219-222.
- BALSBAUGH, E. U. 1980. New collection records of three rare species of flea beetles: *Distigmoptera foveolata* Bal-

Literature Cited

- baugh, *D. texana* Blake, and *Altica nancyae* Stirrett. Journal of the Kansas Entomological Society 53(4): 833-836.
- BALSBAUGH, E. U. 1983. A taxonomic revision of the genus *Phaedon* north of Mexico (Coleoptera: Chrysomelidae). North Dakota Insects, Schaefer-Post Series 15:1-73.
- BALSBAUGH, E. U. 1985. *Chrysolina fastuosa* (Scopoli) (Coleoptera: Chrysomelidae), the first New World record. The Coleopterists Bulletin 39(2):150.
- BALSBAUGH, E. U. 1988. Mimicry and the Chrysomelidae. Pages 261-284 in P. Jolivet, E. Petitpierre, and T. H. Hsiao (eds.). Biology of the Chrysomelidae. Kluwer Academic Publishers, The Netherlands.
- BALSBAUGH, E. U. 1989. The genus *Phaedon* in Middle America (Coleoptera: Chrysomelidae). Entomography 6:465-485.
- BALSBAUGH, E. U., R. D. FRYE, C. G. SCHOLL, AND A. W. ANDERSON. 1981. Insects for weed control: status in North Dakota. North Dakota Farm Research 39(3):3-7.
- BALSBAUGH, E. U. AND K. L. HAYS. 1972. The leaf beetles of Alabama (Coleoptera: Chrysomelidae). Alabama Agricultural Experiment Station Bulletin 441:1-223.
- BALSBAUGH, E. U. AND P. A. JONES. 1966. Flea beetles. Cooperative Economic Insect Report 16(32):773.
- BALSBAUGH, E. U., R. W. KIECKHEFER, AND E. L. MILLER. 1967. Aerial collection of flea beetles, (Chrysomelidae: Alticinae) in South Dakota. Proceedings of the North Central Branch, Entomological Society of America 22: 154-158.
- BALSBAUGH, E. U. AND V. M. KIRK. 1968. Distributional and ecological notes on *Distigmoptera* and *Pseudolampsis* with a description of a new species of *Distigmoptera* (Coleoptera: Chrysomelidae). Journal of the Kansas Entomological Society 41(2):243-247.
- BALSBAUGH, E. U. AND E. G. RILEY. 1980. Two foreign tortoise beetles newly recorded from the United States (Coleoptera: Chrysomelidae: Cassidinae). The Coleopterists Bulletin 34(2):175-176.
- BALSBAUGH, E. U. AND W. L. TUCKER. 1976. Geographic variation in *Pachybrachis nigricornis* (Coleoptera: Chrysomelidae). The Coleopterists Bulletin 30(2):117-131.
- BANHAM, F. L. 1961. Distribution of *Trirhabda pilosa* Blake (Coleoptera: Chrysomelidae), attacking big sagebrush in the interior of British Columbia. Proceedings of the Entomological Society of British Columbia 58:38-40.
- BANHAM F. L. AND D. G. FINLAYSON. 1967. Resistance to organochlorine insecticides in the tuber flea beetle, *Epitrix tuberis* Gent. (Coleoptera: Chrysomelidae), in British Columbia. Journal of the Entomological Society of British Columbia 64:17-23.
- BANIECKI, J. F. AND J. E. WEAVER. 1972. The cereal leaf beetle in West Virginia. West Virginia University, Agricultural Experiment Station, Current Report 60:1-9.
- BANKS, N. 1912. At the *Ceanothus* in Virginia. Entomological News 23(3):102-110.
- BARBER, G. W. 1933. Insects attacking *Solanum sisymbriifolium* in eastern Georgia. Journal of Economic Entomology 26:1174-1175.
- BARBER, H. S. 1916. A review of North American tortoise beetles (Chrysomelidae: Cassidinae). Proceedings of the Entomological Society of Washington 18(2):113-127.
- BARBER, H. S. 1937 (1936). Some species of *Colaspis* from the *brunnea* confusion (Coleoptera: Chrysomelidae). Proceedings of the Entomological Society of Washington 38(9):198-204.
- BARBER, H. S. 1943. Notes on *Rhabdopterus* in the United States (Coleoptera, Chrysomelidae). Bulletin of the Brooklyn Entomological Society 38(4):111-120.
- BARBER, H. S. 1945. Note on *Cerotoma* and *Andrector* (Coleoptera, Chrysomelidae). Bulletin of the Brooklyn Entomological Society 40:121-121.
- BARBER, H. S. 1946a. A new tortoise beetle from Texas (Coleoptera, Cassidinae). Bulletin of the Brooklyn Entomological Society 41:102-103.
- BARBER, H. S. 1946b. A new *Rhabdopterus* from Texas (Coleoptera, Chrysomelidae). Bulletin of the Brooklyn Entomological Society 41(4):140-142.
- BARBER, H. S. 1947. *Diabrotica* and two new genera (Coleoptera, Chrysomelidae). Proceedings of the Entomological Society of Washington 49(6):151-161.
- BARNARD, W. S. 1880. Dominican case-bearer. The American Entomologist 3(9):227.
- BARNEY, R. J. 1984. Records of *Pachybrachis* in Illinois (Coleoptera: Chrysomelidae). The Great Lakes Entomologist 17(3):137-144.
- BARR, W. F. AND A. R. GITTINS. 1955. Additional notes. Cooperative Economic Insect Report 5(39):933.
- BARRETT, R. E. 1932. An annotated list of the insects and arachnids affecting the various species of walnuts or members of the genus *Juglans* Linn. University of California Publications in Entomology 5(15):275-309.
- BARROWS, E. M. 1979. Life cycles, mating, and color change in tortoise beetles (Coleoptera: Chrysomelidae: Cassidinae). The Coleopterists Bulletin 33(1):9-16.
- BARSTOW, D. A. AND A. R. GITTINS. 1971. Life history studies on a willow leaf beetle *Altica bimarginata* Say in north Idaho (Coleoptera: Chrysomelidae). University of Idaho, College of Agriculture, Research Bulletin 80:1-20.
- BARSTOW, D. A. AND A. R. GITTINS. 1973. Descriptions of the life stages of *Altica bimarginata* Say (Coleoptera: Chrysomelidae). Journal of the Kansas Entomological Society 46(4):500-510.
- BARTLET, E. AND I. H. WILLIAMS. 1991. Factors restricting the feeding of the cabbage stem flea beetle (*Psylliodes*

- chrysocephala*). Entomologia Experimentalis et Applicata 60:233-238.
- BARWOOD, *. 1962. Beet leaf beetle (*Erynephala puncticollis*). Cooperative Economic Insect Report 12(30):823.
- BARWOOD, *. 1965. Bean leaf beetle (*Cerotoma trifurcata*). Cooperative Economic Insect Report 15(34):968.
- BARWOOD, * AND * BRACKEEN. 1964a. Mexican bean beetle (*Epilachna varivestis*). Cooperative Economic Insect Report 14(37):1041.
- BARWOOD, * AND * BRACKEEN. 1964b. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 14(42):1145.
- BARWOOD, * AND * DAVIS. 1963a. Bean leaf beetle (*Cerotoma trifurcata*). Cooperative Economic Insect Report 13(29):818.
- BARWOOD, * AND * DAVIS. 1963b. A leaf beetle (*Chlamisus plicata*). Cooperative Economic Insect Report 13(30):860.
- BARWOOD, * AND * SEIBELS. 1963. Flea beetles. Cooperative Economic Insect Report 13(21):551.
- BASS, * AND * KEEN. 1963. A flea beetle (*Altica litigata*). Cooperative Economic Insect Report 13(19):485.
- BASTAZO, G. 1985. Notas corológicas, tróficas y sistematicas sobre *Longitarsus* (Col. Chrys. Alticinae) del sur de la Península Iberica. Boletim da Sociedade Portuguesa de Entomologia 2(Suppl. 1):151-164.
- BASTAZO, G., J. M. VELA, AND E. PETITPIERRE. 1993. Datos faunísticos sobre Alticinae ibéricos (Col., Chrysomelidae). Boletín de la Asociación Española de Entomología 17(1):45-69.
- BATRA, S. W. T. 1979. Insects associated with weeds of the northeastern United States: quickweeds, *Galinsoga ciliata* and *G. parviflora* (Compositae). Environmental Entomology 8(6):1078-1082.
- BATRA, S. W. T., J. R. COULSON, P. H. DUNN, AND P. E. BOLDT. 1981. Insects and fungi associated with *Carduus* thistles (Compositae). United States Department of Agriculture Technical Bulletin 1616:1-100.
- BATRA, S. W. T., D. SCHROEDER, P. E. BOLDT, AND W. MENDEL. 1986. Insects associated with purple loosestrife (*Lythrum salicaria* L.) in Europe. Proceedings of the Entomological Society of Washington 88(4):748-759.
- BAUR, M. E., L. M. HATTIER, AND D. J. BOETHEL. 2000. Comparative feeding by three chrysomelid (Coleoptera: Chrysomelidae) species on eight soybean genotypes. Journal of Entomological Science 35(3):283-289.
- BAUR, R. AND N. E. RANK. 1996. Influence of host quality and natural enemies on the life history of the alder leaf beetles *Agelastica alni* and *Linaeidea aenea*. Pages 173-194 in P. H. A. Jolivet and M. L. Cox (eds.). Chrysomelidae Biology, Vol. 2: Ecological Studies. SPB Academic Publishing, Amsterdam, The Netherlands.
- BAYER, L. J. AND H. J. BROCKMANN. 1975. Curculionidae and Chrysomelidae found in aquatic habitats in Wisconsin. The Great Lakes Entomologist 8(4):219-226.
- BEAMER, R. H. 1926. Notes on *Griburius montezuma* (Suffrian) (Coleoptera-Chrysomelidae). The Pan-Pacific Entomologist 2(4):209-210.
- BEARDSLEY, J. W. 1962. Hawaiian insect report. Cooperative Economic Insect Report 12(8):107.
- BEARDSLEY, J. W. 1986. *Brontispa chalybeipennis* (Zacher). Proceedings of the Hawaiian Entomological Society 27:16.
- BECHTEL, R. C. 1960. Flea beetles. Cooperative Economic Insect Report 10(23):454.
- BECHTEL, R. C. 1961. Flea beetles. Cooperative Economic Insect Report 11(22):458.
- BECHTEL, R. C. 1963. A leaf beetle (*Disonychia alternata*). Cooperative Economic Insect Report 13(21):559.
- BECHTEL, R. C., L. M. BURGE, AND * ARTZ. 1960. Additional notes, Nevada. Cooperative Economic Insect Report 10(40):930.
- BECHTEL, R. C., R. W. LAUDERDALE, AND * PARKER. 1959. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 9(35):808.
- BECHTEL, R. C. AND * PARKER. 1960. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 10(37):856.
- BECHTEL, R. C. AND * PARKER. 1961a. Desert corn flea beetle (*Chaetocnema ectypa*). Cooperative Economic Insect Report 11(32):746.
- BECHTEL, R. C. AND * PARKER. 1961b. Desert corn flea beetle (*Chaetocnema ectypa*). Cooperative Economic Insect Report 11(33):773.
- BECHTEL, R. C. AND * PARKER. 1961c. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 11(33):773.
- BECHTEL, R. C. AND * PARKER. 1961d. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 11(33):783.
- BECHTEL, R. C. AND * PARKER. 1961e. Desert corn flea beetle (*Chaetocnema ectypa*). Cooperative Economic Insect Report 11(36):842.
- BECHTEL, R. C. AND * ZOLLER. 1960. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 10(30):685.
- BECHYNÉ, J. 1956. Open Air Guides, Beetles. Thames and Hudson, London. 158 pages.
- BECHYNÉ, J. 1997a. Evaluación de los datos sobre los Phytophaga dañinos en Venezuela (Coleoptera). Parte I. Boletín de Entomología Venezolana, Serie Monografías 1:1-278.
- BECHYNÉ, J. 1997b. Evaluación de los datos sobre los Phytophaga dañinos en Venezuela (Coleoptera). Parte II. Boletín de Entomología Venezolana, Serie Monografías 1:279-459.
- BECKER, E. C. 1979. *Pyrrhalta viburni* (Coleoptera: Chrysomelidae), a Eurasian pest of *Viburnum* recently established in Canada. The Canadian Entomologist 111:417-419.
- BECKHAM, C. M. 1953a. Banded cucumber beetle (*Diabrotica balteata*). Cooperative Economic Insect Report 3(1):5.

Literature Cited

- BECKHAM, C. M. 1953b. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 3(1):5.
- BECKHAM, C. M. 1958. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 8(23):487.
- BECKHAM, C. M. 1962. Flea beetles (*Systema* spp.). Cooperative Economic Insect Report 12(22):560.
- BECKHAM, C. M. AND M. DUPREE. 1954. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 4(18):357.
- BECKHAM, C. M. AND H. H. TIPPINS. 1972. Observations of sunflower insects. Journal of Economic Entomology 65(3):865-866.
- BEENEN, R. 1992. Het *Galerucella nymphaeae* complex. Nieuwsbrief European Invertebrate Survey – Nederland 21:23.
- BEENEN, R. AND J. WINKELMAN. 1989. Aantekeningen over Chrysomelidae in Nederland (Coleoptera). Entomologische Berichten, Amsterdam 49(5):69-71.
- BEGOSSI, A. 1988. Host plants and defense mechanisms in Oedionychina (Alticinae). Pages 57-71 in P. Jolivet, E. Petit-pierre, and T. H. Hsiao (eds.). Biology of Chrysomelidae, Kluwer Academic Publishers, The Netherlands.
- BEIRNE, B. P. 1971. Pest insects of annual crop plants in Canada. Part I, Lepidoptera; II Diptera; III, Coleoptera. Memoirs of the Entomological Society of Canada 78:1-124.
- BEISLER, J. M., R. L. PIENKOWSKI, L. T. KOK, AND W. H. ROBINSON. 1977. Insects associated with three weedy grasses and yellow nutsedge. Environmental Entomology 6(3):455-459.
- BELL, J. AND R. ROSELLE. 1962. Southern corn rootworm (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 12(24):615.
- BELL, J. V., R. J. HAMALLE, AND J. A. ONSAGER. 1972. Mortality of larvae and pupae of the banded cucumber beetle in soil and sand following topical application of fungus spores. Journal of Economic Entomology 65(2):605-606.
- BELL, K. O. 1970. Southern corn rootworm (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 20(47):782.
- BELL, K. O. 1973. Bean leaf beetle (*Cerotoma trifurcata*). Cooperative Economic Insect Report 23(18):252.
- BELLER, S. AND M. H. HATCH. 1932. Coleoptera of Washington: Chrysomelidae. University of Washington Publications in Biology 1(2):65-144.
- BENNETT, A., C. L. N. DU TOIT, AND A. L. BENNETT. 1999. A new record of *Lema trilinea* White (Coleoptera: Chrysomelidae) on tobacco in South Africa, with reference to the common pest species, *Lema bilineata* (Germar) (Coleoptera: Chrysomelidae, Criocerinae). African Entomology 7(2):316-319.
- BENNETT, A. G. 1955. Corn silk beetle (*Luperodes brunneus*). Cooperative Economic Insect Report 5(29):686.
- BENNETT, S. E. AND B. B. FULTON. 1953. The seasonal cycle of the strawberry rootworm, *Paria canella* (Fabr.) in North Carolina. Journal of Economic Entomology 46(6):1101-1102.
- BENNETT, W. H. AND H. E. OSTMARK. 1972. Insects Pests of Southern Pines. United States Department of Agriculture, Forest Service, Southern Forest Experiment Station. 40 pages.
- BERG, C. O. 1949. Limnological relations of insects to plants of the genus *Potamogeton*. Transactions of the American Microscopical Society 68(4):279-291.
- BERGMAN, P. W. 1960. Corn rootworms (*Diabrotica* spp.). Cooperative Economic Insect Report 10(37):849.
- BERGMAN, P. W. 1961a. Corn rootworms (*Diabrotica* spp.), Nebraska. Cooperative Economic Insect Report 11(30):682.
- BERGMAN, P. W. 1961b. Corn rootworms (*Diabrotica* spp.). Cooperative Economic Insect Report 11(34):795.
- BERGMAN, P. W. 1961c. Southern corn rootworm (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 11(35):819.
- BERGMAN, P. W. 1962a. Corn rootworms (*Diabrotica* spp.). Cooperative Economic Insect Report 12(31):848.
- BERGMAN, P. W. 1962b. Corn rootworms (*Diabrotica* spp.). Cooperative Economic Insect Report 12(37):1014.
- BERGMAN, P. W. 1964a. Southern corn rootworm (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 14(22):538.
- BERGMAN, P. W. 1964b. Corn rootworms (*Diabrotica* spp.). Cooperative Economic Insect Report 14(40):1108.
- BERRY, *. 1970. Western spotted cucumber beetle (*Diabrotica undecimpunctata undecimpunctata*). Cooperative Economic Insect Report 20(29):499.
- BERTELS, A. AND O. BAUCKE. 1966. Segunda relação das pragas das plantas cultivadas no Rio Grande do Sul. Pesquisa Agropecuaria Brasileira 1:17-46.
- BESHEAR, R. J. 1969. Observations on the life history of *Hemisphaerota cyanea* in Georgia (Coleoptera: Chrysomelidae). Journal of the Georgia Entomological Society 4(4):168-170.
- BETHKE, J. A. AND R. A. REDAK. 1996a. Temperature and moisture effects on the success of egg hatch in *Trirhabda geminata* (Coleoptera: Chrysomelidae). Annals of the Entomological Society of America 89(5):661-666.
- BETHKE, J. A. AND R. A. REDAK. 1996b. Seasonal occurrence of the herbivore *Trirhabda geminata* (Coleoptera: Chrysomelidae) on *Encelia farinosa* in southern California. Annals of the Entomological Society of America 89(6):843-848.
- BEUTENMÜLLER, W. 1890a. Food habits of some Chrysomelidae. Entomologica Americana 6:175-178.
- BEUTENMÜLLER, W. 1890b. Description of the larva of *Trirhabda tomentosa*, L. The Canadian Entomologist 22(2):36.
- BIBBY, F. F. 1961. Notes on miscellaneous insects of Arizona. Journal of Economic Entomology 54(2):324-333.
- BICKENSTAFF, C. C. AND J. L. HUGGANS. 1962. Soybean insects and related arthropods in Missouri. Missouri Agricultural Experiment Station, Research Bulletin 803:1-51.

- BIGGER, J. H. 1931. Grape colaspis as a corn pest in Illinois. Transactions of the Illinois State Academy of Science 24: 235-240.
- BINGAMAN, B. R. AND E. R. HART. 1992. Feeding and oviposition preferences of adult cottonwood leaf beetles (Coleoptera: Chrysomelidae) among *Populus* clones and leaf ages. Environmental Entomology 21(3):508-517.
- BINNS, E. S. 1975. Adults of *Longitarsus jacobaeae* (L.) (Col., Chrysomelidae) defoliating ragwort (*Senecio jacobaea* L.: Compositae). Entomologist's Monthly Magazine 111:129-130.
- BIONDI, M. 1990. Ricerche zoologiche della nave oceanografica "Minerva" (C.N.R.) sulle Isole Circumsarde. VIII. I crisomelidi Alticini delle Isole Circumsarde (Coleoptera, Chrysomelidae, Alticinae). Anni del Museo Civico di Storia Naturale "G. Doria" 88:337-363.
- BIONDI, M. 1993. Il popolamento a Coleoptera Chrysomelidae dell'Appennino Umbro-Marchigiano: considerazioni zoogeografiche ed ecologiche. Biogeographia 17:321-365.
- BIONDI, M. 1996. Proposal for an ecological and zoogeographical categorization of the Mediterranean species of the flea beetle genus *Longitarsus* Berthold. Pages 13-35 in P. H. A. Jolivet and M. L. Cox (eds.). Chrysomelidae Biology, vol. 3: General Studies. SPB Academic Publishing, Amsterdam, The Netherlands.
- BIONDI, M. AND G. DE NARDIS. 1998. Descrizione della larva di primo stadio di *Longitarsus minimus* e *L. pratensis* (Coleoptera, Chrysomelidae). Fragmenta Entomologica 30(2):261-270.
- BISHOP, *. 1963. Western black flea beetle (*Phyllotreta pusilla*). Cooperative Economic Insect Report 13(25):679.
- BISSELL, T. L. 1941. The pale-striped flea beetle. Georgia Experiment Station Circular 130:1-8.
- BISSELL, T. L. 1953. Summary of insect conditions – 1952, Maryland. Cooperative Economic Insect Report 3(8):126-129.
- BISSELL, T. L., W. C. HARDING, AND C. W. MCCOMB. 1962. New 1961 Maryland insect records and some unpublished new state records from previous years. Cooperative Economic Insect Report 12(6):73.
- BLACKALLER, A. 1945. El mayate del tomate de cáscara, *Lema trilineata* (Olivier). Fitófilo 4(6):364-370.
- BLACKMAN, M. W. 1918. On the insect visitors to the blossoms of wild blackberry and wild spiraea – a study in seasonal distribution. The New York State College of Forestry at Syracuse University, Technical Publication 10: 117-144.
- BLAIR, * AND R. P. HOLDSWORTH. 1960. Locust leaf miner (*Chalepus dorsalis*). Cooperative Economic Insect Report 10(34):782.
- BLAISDELL, F. E. 1892. Notes on the habits of some species of Coleoptera observed in San Diego County, Cal. Insect Life 5(1):33-36.
- BLAISDELL, F. E. 1921. New species of Melyridae, Chrysomelidae and Tenebrionidae (Coleoptera) from the Pacific Coast, with notes on other species. Stanford University Publications, Biological Sciences 1(3):136-231.
- BLAISDELL, F. E. 1939. A study of the species of Hispinae belonging to the genus *Stenopodius* with descriptions of new species. Transactions of the American Entomological Society 64:421-447.
- BLAKE, D. H. 1927. A revision of the beetles of the genus *Oedionychis* occurring in America north of Mexico. Proceedings of the United States National Museum 70:1-44.
- BLAKE, D. H. 1930. Synonymies of Antillean Chrysomelidae, with descriptions of new species. Bulletin of the Brooklyn Entomological Society 25(4):209-223.
- BLAKE, D. H. 1931a. Notes on West Indian and Central American flea-beetles (Halticinae). Bulletin of the Brooklyn Entomological Society 26(2):76-83.
- BLAKE, D. H. 1931b. Revision of the species of beetles of the genus *Tirirhabda* north of Mexico. Proceedings of the United States National Museum 79:1-36.
- BLAKE, D. H. 1933a. Revision of the beetles of the genus *Disonycha* occurring in America north of Mexico. Proceedings of the United States National Museum 82:1-66.
- BLAKE, D. H. 1933b. Two new species of *Systema*, with notes on differences in sexual coloration in the genus. Proceedings of the Entomological Society of Washington 35(8):180-183.
- BLAKE, D. H. 1934. New West Indian and Central American Chrysomelidae. Bulletin of the Brooklyn Entomological Society 29(2):45-56.
- BLAKE, D. H. 1935. Notes on *Systema*. Bulletin of the Brooklyn Entomological Society 30(3):89-109.
- BLAKE, D. H. 1936a. *Altica bimarginata* Say, with descriptions of new species and varieties (Coleoptera). Proceedings of the Entomological Society of Washington 38(2):13-24.
- BLAKE, D. H. 1936b. A redistribution of *Monoxia puncticollis* and allied species. Journal of the Washington Academy of Sciences 26(10):423-430.
- BLAKE, D. H. 1937a. The Templeton Crocker Expedition. V. A new chrysomelid beetle of the genus *Monoxia* from Lower California. Zoologica, New York Zoological Society 22(1):89-91.
- BLAKE, D. H. 1937b. Ten new species of West Indian Chrysomelidae (Coleoptera). Proceedings of the Entomological Society of Washington 39(4):67-78.
- BLAKE, D. H. 1939. A study of LeConte's types of the beetles in the genus *Monoxia*, with descriptions of new species. Proceedings of the United States National Museum 87:145-171.
- BLAKE, D. H. 1941. New species of *Chaetocnema* and other chrysomelids (Coleoptera) from the West Indies. Proceedings of the Entomological Society of Washington 43(8):171-180.

Literature Cited

- BLAKE, D. H. 1942. The chrysomelid beetles *Luperodes bivittatus* (LeConte) and *varicornis* (LeConte) and some allied species. Proceedings of the United States National Museum 92:57-74.
- BLAKE, D. H. 1943. The generic position of *Hypolampsis pilosa* (Illiger) and some related new species (Coleoptera: Halticidae). Proceedings of the Entomological Society of Washington 45(9):207-221.
- BLAKE, D. H. 1945. The genus *Galeruca* in North America (Coleoptera: Galerucinae). Proceedings of the Entomological Society of Washington 47(3):53-63.
- BLAKE, D. H. 1946. Species of beetles of the genus *Lactica* from the West Indies closely related to *L. tibialis* (Olivier). Journal of the Washington Academy of Sciences 36(8):267-269.
- BLAKE, D. H. 1950. A revision of the beetles of the genus *Myochrous*. Proceedings of the United States National Museum 101:1-64.
- BLAKE, D. H. 1951. New species of chrysomelid beetles of the genera *Trirhabda* and *Disonycha*. Journal of the Washington Academy of Sciences 41(10):324-328.
- BLAKE, D. H. 1952. American Chrysomelidae in the Bosc Collection (Coleoptera). Proceedings of the Entomological Society of Washington 54(2):57-68.
- BLAKE, D. H. 1953. The chrysomelid beetles of the genus *Strabala* Chevrolat. Proceedings of the United States National Museum 103:121-134.
- BLAKE, D. H. 1954. Chrysomelid beetles of the *Oedionychus miniatus* complex (Coleoptera). Proceedings of the Entomological Society of Washington 56(3):139-147.
- BLAKE, D. H. 1955a. Revision of the vittate species of the chrysomelid beetle genus *Disonycha* from the Americas south of the United States. Proceedings of the United States National Museum 104:1-86.
- BLAKE, D. H. 1955b. A study of LeConte's species of the chrysomelid genus *Graphops* with descriptions of some new species. Bulletin of the Museum of Comparative Zoology 113(4):263-301.
- BLAKE, D. H. 1956. Species of *Phyllobrotica* occurring in the Pacific Coast states (Coleoptera, Chrysomelidae). Proceedings of the Entomological Society of Washington 58(5):259-263.
- BLAKE, D. H. 1958. A review of some galerucine beetles with excised middle tibiae in the male. Proceedings of the United States National Museum 108:59-101.
- BLAKE, D. H. 1964. Notes on new and old species of Alticinae (Coleoptera) from the West Indies. Proceedings of the United States National Museum 115:9-30.
- BLAKE, D. H. 1966a. A review of the beetles of the genus *Neobrotica* and some closely related genera. Proceedings of the United States National Museum 118:267-372.
- BLAKE, D. H. 1966b. Ten new chrysomelid beetles from the West Indies and Key West. Proceedings of the Entomological Society of Washington 68(3):213-222.
- BLAKE, D. H. 1967. Revision of the beetles of genus *Glyptoscelis* (Coleoptera: Chrysomelidae). Proceedings of the United States National Museum 123:1-53.
- BLAKE, D. H. 1970a. Notes on some chrysomelid beetles from the United States and Argentina. Proceedings of the Entomological Society of Washington 72(3):320-324.
- BLAKE, D. H. 1970b. A review of the beetles of the genus *Metachroma* Chevrolat (Coleoptera: Chrysomelidae). Smithsonian Contributions to Zoology 57:1-111.
- BLAKE, D. H. 1974. The costate species of *Colaspis* in the United States (Coleoptera: Chrysomelidae). Smithsonian Contributions to Zoology 181:1-24.
- BLAKE, D. H. 1976. The brown semicostate and costate species of *Colaspis* in Mexico and Central America (Coleoptera: Chrysomelidae). United States Department of Agriculture, Agricultural Research Service, Technical Bulletin 1534:40.
- BLAKE, D. H. 1977. *Colaspis favosa* Say and its close relatives (Coleoptera: Chrysomelidae). Proceedings of the Entomological Society of Washington 79(2):209-215.
- BLAND, R. G. AND H. E. JAKES. 1978. How to Know the Insects, Third Edition. William C. Brown Company, Dubuque, Iowa. 409 pages.
- BLATCHLEY, W. S. 1892. *Cnicus discolor* as an insect trap. The Canadian Entomologist 24(12):310-311.
- BLATCHLEY, W. S. 1896. Notes on the winter insect fauna of Vigo County, Indiana. VII. Psyche 7:434-437.
- BLATCHLEY, W. S. 1910. Coleoptera or beetles (exclusive of the Rhynchophora) known to occur in Indiana. The Nature Publishing Co., Indianapolis. 1386 pages.
- BLATCHLEY, W. S. 1913. On some apparently new Coleoptera from Indiana and Florida. The Canadian Entomologist 45(1):21-24.
- BLATCHLEY, W. S. 1914. Notes on the winter and early spring Coleoptera of Florida, with descriptions of new species. The Canadian Entomologist 46:61-66, 88-92, 140-144, 247-251.
- BLATCHLEY, W. S. 1916. A new genus and species of Nitidulini, with descriptions of other new species of Coleoptera from Indiana and Florida. The Canadian Entomologist 48:91-96.
- BLATCHLEY, W. S. 1917. On some new or noteworthy Coleoptera from the west coast of Florida. The Canadian Entomologist 49:137-143, 236-240, 272-279.
- BLATCHLEY, W. S. 1918. On some new or noteworthy Coleoptera from the west coast of Florida. IV. The Canadian Entomologist 50:52-59.
- BLATCHLEY, W. S. 1919. Some new or scarce Coleoptera from western and southern Florida. III. The Canadian Entomologist 51:1-11.

- mologist 51:65-69.
- BLATCHLEY, W. S. 1920a. Notes on the winter Coleoptera of western and southern Florida, with descriptions of new species. *The Canadian Entomologist* 52:42-46, 68-72.
- BLATCHLEY, W. S. 1920b. Notes on some Coleoptera taken in the vicinity of Dunedin, Florida, in the spring of 1920, with descriptions of new species. *The Canadian Entomologist* 52:259-264.
- BLATCHLEY, W. S. 1921. Notes on Indiana Halticini with characterization of a new genus and descriptions of new species. *Journal of the New York Entomological Society* 29:16-27.
- BLATCHLEY, W. S. 1922. Some new and rare Coleoptera from southwestern Florida. *The Canadian Entomologist* 54: 9-14, 27-33.
- BLATCHLEY, W. S. 1923. Notes on the Coleoptera of southern Florida with descriptions of new species. *The Canadian Entomologist* 55:13-20, 30-36.
- BLATCHLEY, W. S. 1924a. The Chrysomelidae of Florida. *The Florida Entomologist* 7:33-39, 49-57; 8:1-7, 17-23, 39-46.
- BLATCHLEY, W. S. 1924b. Some new Halticini from Indiana and Ontario. *Journal of the New York Entomological Society* 32:90-92.
- BLATCHLEY, W. S. 1924c. New Coleoptera from southern Florida and notes on other interesting species. *The Canadian Entomologist* 56:164-170.
- BLATCHLEY, W. S. 1925. Notes on the distribution and habits of some Florida Coleoptera with descriptions of new species. *The Canadian Entomologist* 57(7):160-168.
- BLATCHLEY, W. S. 1927. Some new species of Coleoptera from Indiana and Florida. *Entomological News* 38:139-144.
- BLATCHLEY, W. S. 1928. Notes on some Florida Coleoptera with descriptions of new species. *The Canadian Entomologist* 60:60-73.
- BLATCHLEY, W. S. 1930. Notes on the distribution of Coleoptera in Florida with new additions to the known fauna of that state. *The Canadian Entomologist* 62:28-35.
- BLOSSEY, B. 1995a. Coexistence of two leaf-beetles in the same fundamental niche. Distribution, adult phenology and oviposition. *Oikos* 74:225-234.
- BLOSSEY, B. 1995b. A comparison of various approaches for evaluating potential biological control agents using insects on *Lythrum salicaria*. *Biological Control* 5:113-122.
- BLOSSEY, B. AND T. R. HUNT. 1999. Mass rearing methods for *Galerucella californiensis* and *G. pusilla* (Coleoptera: Chrysomelidae), biological control agents of *Lythrum salicaria* (Lythraceae). *Journal of Economic Entomology* 92(2):325-334.
- BLOSSEY, B. AND M. SCHAT. 1997. Performance of *Galerucella californiensis* (Coleoptera: Chrysomelidae) on different North American populations of purple loosestrife. *Environmental Entomology* 26(2):439-445.
- BLOSSEY, B., D. SCHROEDER, S. D. HIGHT, AND R. A. MALECKI. 1994. Host specificity and environmental impact of two leaf beetles (*Galerucella californiensis* and *G. pusilla*) for biological control of purple loosestrife (*Lythrum salicaria*). *Weed Science* 42:134-140.
- BLUM, M. S. 1994. Antipredator devices in larvae of the Chrysomelidae: a unified synthesis for defensive eclecticism. Pages 277-288 in P. H. Jolivet, M. L. Cox, and E. Petitpierre (eds.). *Novel Aspects of the Biology of Chrysomelidae*. Kluwer Academic Publishers, The Netherlands.
- BLUM, M. S., J. M. BRAND, J. B. WALLACE, AND H. M. FALES. 1972. Chemical characterization of the defensive secretion of a chrysomelid larva. *Life Sciences* 11 (Part II):525-531.
- BODNARYK, R. P. AND R. J. LAMB. 1991a. Mechanisms of resistance to the flea beetle, *Phyllotreta cruciferae* (Goeze), in mustard seedlings, *Sinapis alba* L. *Canadian Journal of Plant Science* 71:13-20.
- BODNARYK, R. P. AND R. J. LAMB. 1991b. Influence of seed size in canola, *Brassica napus* L. and mustard, *Sinapis alba* L., on seedling resistance against flea beetles, *Phyllotreta cruciferae* (Goeze). *Canadian Journal of Plant Science* 71:397-404.
- BODNARYK, R. P. AND P. PALANISWAMY. 1990. Glucosinolate levels in cotyledons of mustard, *Brassica juncea* L. and rape, *B. napus* L. do not determine feeding rates of flea beetle, *Phyllotreta cruciferae* (Goeze). *Journal of Chemical Ecology* 16(9):2735-2746.
- BOETEL, M. A., D. D. WALGENBACH, G. L. HEIN, B. W. FULLER, AND M. E. GRAY. 1992. Oviposition site selection of the northern corn rootworm (Coleoptera: Chrysomelidae). *Journal of Economic Entomology* 85(1):246-249.
- BOGATKO, W. 1989. A study of willow and poplar resistance to larvae of *Plagioderma versicolora* (Laich.) (Coleoptera, Chrysomelidae) in laboratory experiments. *Polskie Pismo Entomologiczne* 58:817-820.
- BOGATKO, W. 1990. The effect of leaf trichomes, salicin and gallic acid on food plant choice by the imported willow leaf beetle, *Plagioderma versicolora* (Laich.) (Coleoptera, Chrysomelidae). *Polskie Pismo Entomologiczne* 59: 799-803.
- BOITEAU, G. 1983a. The arthropod fauna of potato fields: composition and abundance. Agriculture Canada, Research Branch, Contribution 1983-16E. 57 pages.
- BOITEAU, G. 1983b. The arthropod community of potato fields in New Brunswick, 1979-1981. *The Canadian Entomologist* 115:847-853.
- BOITEAU, G. 1998. Reproductive barriers between the partially sympatric Colorado and false potato beetles. *Entomologia Experimentalis et Applicata* 89:147-153.

Literature Cited

- BOLDT, P. E. 1989a. Biology and host specificity of *Trirhabda bacharidis* (Coleoptera: Chrysomelidae) on *Baccharis* (Asteraceae: Astereae). Environmental Entomology 18(1):78-84.
- BOLDT, P. E. 1989b. *Baccharis* (Asteraceae), a review of its taxonomy, phytochemistry, ecology, economic status, natural enemies and the potential for its biological control in the United States. Texas Agricultural Experiment Station Miscellaneous Publication 1674:1-32.
- BOLDT, P. E. 1996 (1995). Sino-American biological control laboratory visitors. Chrysomela Newsletter 31:7.
- BOLDT, P. E. AND T. O. ROBBINS. 1987. Phytophagous and pollinating insect fauna of *Baccharis neglecta* (Compositae) in Texas. Environmental Entomology 16(4):887-895.
- BOLDT, P. E. AND T. O. ROBBINS. 1990. Phytophagous and flower-visiting insect fauna of *Baccharis salicifolia* (Asteraceae) in the southwestern United States and northern Mexico. Environmental Entomology 19(3):515-523.
- BOLDT, P. E. AND T. O. ROBBINS. 1994. Phytophagous insect faunas of *Baccharis salicina*, *B. pteronioides*, and *B. bigelovii* (Asteraceae) in the southwestern United States and northern Mexico. Environmental Entomology 23(1):47-57.
- BOLDT, P. E. AND C. L. STAINES. 1993. Biology and description of immature stages of *Pentispa suturalis* (Baly) (Coleoptera: Chrysomelidae) on *Baccharis bigelovii* (Asteraceae). The Coleopterists Bulletin 47(2):215-220.
- BOLDT, P. E. AND R. E. WHITE. 1992. Life history and larval description of *Exema elliptica* Karren (Coleoptera: Chrysomelidae) on *Baccharis halimifolia* L. (Asteraceae) in Texas. Proceedings of the Entomological Society of Washington 94(1):83-90.
- BOLDT, P. E., W. WOODS, AND T. O. ROBBINS. 1988. Phytophagous insect fauna of *Baccharis sarothroides* Gray (Asteraceae) in Arizona and New Mexico. Proceedings of the Entomological Society of Washington 90(2):207-215.
- BOLLINGER, R. F. 1980. A chrysomelid beetle (*Paria wilcoxi*). Cooperative Plant Pest Report 5(1):4.
- BOLSER, R. C. AND M. E. HAY. 1998. A field test of inducible resistance to specialist and generalist herbivores using the water lily *Nuphar luteum*. Oecologia 116:143-153.
- BOLTON, *. 1968a. Corn flea beetle (*Chaetocnema pulicaria*). Cooperative Economic Insect Report 18(19):390.
- BOLTON, *. 1968b. Corn flea beetle (*Chaetocnema pulicaria*). Cooperative Economic Insect Report 18(19):391.
- BONGERS, W. 1965. External factors in the host plant selection of the Colorado beetle *Leptinotarsa decemlineata* Say. Mededelingen van de Landbouwhogeschool en de Opzoekingsstations van de Staat te Gent 30(3):1516-1523.
- BONGERS, W. 1970. Aspects of host-plant relationship of the Colorado beetle. Mededelingen Landbouwhogeschool Wageningen 70(10):1-77.
- BONNEMAISON, L. 1965. Insect pests of crucifers and their control. Annual Review of Entomology 10:233-256.
- BOROWIEC, L. 1984. Zoogeographical study on Donaciinae of the world (Coleoptera, Chrysomelidae). Polskie Pismo Entomologiczne 53:433-518.
- BOROWIEC, L. 1998. Review of the Cassidinae of Ecuador, with description of thirteen new species (Coleoptera: Chrysomelidae). Genus 9(2):155-246.
- BOROWIEC, L. 1999. A World Catalogue of the Cassidinae (Coleoptera: Chrysomelidae). Biologica Silesiae, Wroclaw, Poland. 476 pages.
- BOROWIEC, L. 2002. New records of Neotropical Cassidinae, with description of three new species (Coleoptera: Chrysomelidae). Genus 13(1):43-138.
- BOROWIEC, L., V. CHIKATUNOV, AND J. HALPERIN. 1997. The Cassidinae (Coleoptera: Chrysomelidae) of Israel. Israel Journal of Entomology 31:147-152.
- BORROR, D. J., C. A. TRIPLEHORN, AND N. F. JOHNSON. 1989. An Introduction to the Study of Insects, Sixth Edition. Saunders College Publishing, Philadelphia, Pennsylvania. 875 pages.
- BORROR, D. J. AND R. E. WHITE. 1970. A Field Guide to the Insects of America North of Mexico. Houghton Mifflin Company, Boston, Massachusetts. 404 pages.
- BOULANGER, L. W. 1960. Potato flea beetle (*Epitrix cucumeris*). Cooperative Economic Insect Report 10(27):591.
- BOULANGER, L. W. 1966. Potato flea beetle (*Epitrix cucumeris*). Cooperative Economic Insect Report 16(25):578.
- BOULANGER, L. W. 1967a. Potato flea beetle (*Epitrix cucumeris*). Cooperative Economic Insect Report 17(25):540.
- BOULANGER, L. W. 1967b. Potato flea beetle (*Epitrix cucumeris*). Cooperative Economic Insect Report 17(26):567.
- BOULANGER, L. W. 1968. Flea beetles (*Altica* spp.). Cooperative Economic Insect Report 18(25):555.
- BÖVING, A. G. 1910. Natural history of the larvae of Donaciinae. Internationale Revue der gesamten Hydrobiologie und Hydrographie 3, Biol. Suppl. 1:1-108.
- BÖVING, A. G. 1927. Descriptions of larvae of the genera *Diabrotica* and *Phyllobrotica*, with a discussion of the taxonomic validity of the subfamilies Galerucinae and Halticinae (Coleoptera: Chrysomelidae). Proceedings of the Entomological Society of Washington 29(9):193-205.
- BÖVING, A. G. 1929. Beetle larvae of the subfamily Galerucinae. Proceedings of the United States National Museum 75(2):1-48.
- BOYES, *, * WINGFIELD, AND W. D. MARKS. 1966. Flea beetles. Cooperative Economic Insect Report 16(27):641.
- BRANDT, R. N. AND R. J. LAMB. 1991. The distribution and effects of *Phyllotreta crucifera* [sic] feeding on seedlings of four cruciferous crops (*Sinapis alba*, *Brassica juncea*, *Brassica napus* and *Brassica campestris*). Proceedings of the Entomological Society of Manitoba 47:24.
- BRANDT, R. N. AND R. J. LAMB. 1993. Distribution of feeding damage by *Phyllotreta cruciferae* (Goeze) (Coleoptera:

- Chrysomelidae) on oilseed rape and mustard seedlings in relation to crop resistance. The Canadian Entomologist 125:1011-1021.
- BRANDVIK, W. J. 1970. Western black flea beetle (*Phyllotreta pusilla*). Cooperative Economic Insect Report 20(25): 404.
- BRANIGAN, E. J. 1912. A new host plant of the California grape rootworm (*Adoxus obscurus* Linn.). The Monthly Bulletin of the California Department of Agriculture 2:585-586.
- BRANNON, D. H. 1959. Alder flea beetle (*Altica ambiens*). Cooperative Economic Insect Report 9(22):465.
- BRANNON, L. W. 1938. The sweetpotato leaf beetle. United States Department of Agriculture Circular 495:1-9.
- BRANSON, T. F. 1971. Resistance in the grass tribe Maydeae to larvae of the western corn rootworm. Annals of the Entomological Society of America 64(4):861-863.
- BRANSON, T. F. AND P. L. GUSS. 1983. Olfactory responses of *Diabrotica* spp. (Coleoptera: Chrysomelidae) to cut fruits of bitter and nonbitter *Cucurbita* spp. Environmental Entomology 12(3):700-702.
- BRANSON, T. F., P. L. GUSS, AND E. E. ORTMAN. 1969. Toxicity of sorghum roots to larvae of the western corn rootworm. Journal of Economic Entomology 62(6):1375-1378.
- BRANSON, T. F. AND J. L. KRYSAN. 1981. Feeding and oviposition behavior and life cycle strategies of *Diabrotica*: an evolutionary view with implications for pest management. Environmental Entomology 10(6):826-831.
- BRANSON, T. F. AND J. L. KRYSAN. 1987. Laboratory biology of *Diabrotica tibialis* and a closely related *Diabrotica* species (Coleoptera: Chrysomelidae). Journal of the Kansas Entomological Society 60(3):446-450.
- BRANSON, T. F. AND E. E. ORTMAN. 1967a. Host range of larvae of the western corn rootworm. Journal of Economic Entomology 60(1):201-203.
- BRANSON, T. F. AND E. E. ORTMAN. 1967b. Fertility of western corn rootworm reared as larvae on alternate hosts. Journal of Economic Entomology 60(2):595.
- BRANSON, T. F. AND E. E. ORTMAN. 1967c. Host range of larvae of the northern corn rootworm (Coleoptera: Chrysomelidae). Journal of the Kansas Entomological Society 40(3):412-414.
- BRANSON, T. F. AND E. E. ORTMAN. 1970. The host range of larvae of the western corn rootworm: further studies. Journal of Economic Entomology 63(3):800-803.
- BRANSON, T. F. AND E. E. ORTMAN. 1971. Host range of larvae of the northern corn rootworm: further studies. Journal of the Kansas Entomological Society 44(1):50-52.
- BRANSON, T. F. AND J. REYES RUEDA. 1983. The association of *Diabrotica* spp. with *Zea diploperennis*. Journal of the Kansas Entomological Society 56(1):97-99.
- BRANSON, T. F., J. REYES RUEDA, AND H. VALDÉS MARTÍNEZ. 1982. Field biology of Mexican corn rootworm, *Diabrotica virgifera zea* (Coleoptera: Chrysomelidae), in central Mexico. Environmental Entomology 11:1078-1083.
- BRAY, D. F. AND C. A. TRIPLEHORN. 1953. Survey of the insect fauna of red and pin oaks in Delaware. University of Delaware, Agricultural Experiment Station, Technical Bulletin 297:1-28.
- BREDEN, F. AND M. J. WADE. 1985. The effect of group size and cannibalism rate on larval growth and survivorship in *Plagioderma versicolora*. Entomography 3:455-463.
- BREDEN, F. AND M. J. WADE. 1987. An experimental study of the effect of group size on larval growth and survivorship in the imported willow leaf beetle, *Plagioderma versicolora* (Coleoptera: Chrysomelidae). Environmental Entomology 16(5):1082-1086.
- BREDEN, F. AND M. J. WADE. 1989. Selection within and between kin groups of the imported willow leaf beetle. The American Naturalist 134(1):35-50.
- BRETT, C. H. AND J. D. RUDDER. 1966. Resistance of 30 commercial cruciferous varieties to the striped flea beetle, *Phyllotreta striolata*. Journal of Economic Entomology 59(3):769.
- BREWER, J. W. 1973. Control of the elm leaf beetle in Colorado. Journal of Economic Entomology 66(1):162-164.
- BREWER, M. J., R. N. STORY, AND V. L. WRIGHT. 1987. Development of summer squash seedlings damaged by striped and spotted cucumber beetles (Coleoptera: Chrysomelidae). Journal of Economic Entomology 80(5):1004-1009.
- BRIGGS, E. M. 1905. The life history of case bearers: I. *Chlamys plicata*. Cold Spring Harbor Monographs 4:1-12.
- BRIGHAM, W. U. 1982. Aquatic Coleoptera. Pages 10.1-10.136 in A. R. Brigham, W. U. Brigham, and A. Gnillka (eds.). Aquatic Insects and Oligochaetes of North and South Carolina. Midwest Aquatic Enterprises, Muhomet, Illinois.
- BRIMLEY, C. S. 1938. The Insects of North Carolina. North Carolina Department of Agriculture, Division of Entomology. 560 pages.
- BRISLEY, H. R. 1925. Notes on the Chrysomelidae (Coleoptera) of Arizona. Transactions of the American Entomological Society 51:167-182.
- BRISLEY, H. R. 1927. A short review of the tribes Orsodacnini and Criocerini of the coleopterous family Chrysomelidae with special reference to species of western United States. The Pan-Pacific Entomologist 4(2):54-60.
- BRISLEY, H. R. 1928. A short review of the tribes Orsodacnini and Criocerini of the coleopterous family Chrysomelidae with special reference to species of western United States. The Pan-Pacific Entomologist 4(3):114-119.
- BRITTEN, H. B., A. R. MACCLURE, A. M. TYLER, A. D. KATTAN, AND K. L. OLMSTEAD. 2003. Effects of host-plant distribution on genetic structuring of two tortoise beetles (Coleoptera: Chrysomelidae: Cassidinae) in the northern Great Plains. Annals of the Entomological Society of America 96(6):856-864.

Literature Cited

- BRITTON, W. E. 1903. Twelve-spotted asparagus beetle in Connecticut. The Canadian Entomologist 35:188.
- BRITTON, W. E. 1907. The elm leaf beetle. Connecticut Agricultural Experiment Station Bulletin 155:1-14.
- BRITTON, W. E. 1911. Vacation notes in the Adirondacks. Journal of Economic Entomology 4:544-545.
- BRITTON, W. E. 1918a. Insects attacking the potato crop in Connecticut. Connecticut Agricultural Experiment Station Bulletin 208:103-119.
- BRITTON, W. E. 1918b. The bean leaf beetle. *Cerotoma trifurcata* Forst. Connecticut Agricultural Experiment Station Bulletin 211:327-329.
- BRITTON, W. E. 1919. Insects attacking squash, cucumber, and allied plants in Connecticut. Connecticut Agricultural Experiment Station Bulletin 216:31-51.
- BRITTON, W. E. 1924. Some of the principal insects attacking shade trees in Connecticut. Connecticut Agricultural Experiment Station Bulletin 263:156-192.
- BRITTON, W. E. 1932. The elm leaf beetle outbreak. Connecticut Agricultural Experiment Station Circular 84:29-34.
- BRITTON, W. E. AND M. P. ZAPPE. 1927. Some insect pests of nursery stock in Connecticut. Connecticut Agricultural Experiment Station Bulletin 292:113-173.
- BROMLEY, P. J. 1949. Biological observations on various Chrysomelidae (Col.). Entomologist's Monthly Magazine 85: 81-84.
- BROMLEY, S. W. 1950. The elm leaf beetle, *Galerucella xanthomelaena* (Schrank). New England Section, Society of American Foresters, Tree Pest Leaflets 9 (revised):1-4.
- BROOKS, A. N. AND E. G. KELSHEIMER. 1961. Insects and diseases affecting strawberries. Florida Agricultural Experiment Stations Bulletin 629:1-35.
- BROWN, A. W. A. 1941. Foliage insects of spruce in Canada. Dominion of Canada, Department of Agriculture, Publication 712:1-29.
- BROWN, D. G. 1994. Beetle folivory increases resource availability and alters plant invasion in monocultures of goldenrod. Ecology 75(6):1673-1683.
- BROWN, D. G. AND A. E. WEIS. 1995. Direct and indirect effects of prior grazing of goldenrod upon the performance of a leaf beetle. Ecology 76(2):426-436.
- BROWN, J. J., T. JERMY, AND B. A. BUTT. 1980. The influence of an alternate host plant on the fecundity of the Colorado potato beetle, *Leptinotarsa decemlineata* (Coleoptera: Chrysomelidae). Annals of the Entomological Society of America 73(2):197-199.
- BROWN, M. W. 1990. Abundance and identification of the leafmining guild on apple in the mid-Atlantic states. The Great Lakes Entomologist 23(4):179-188.
- BROWN, M. W. 1993. Resilience of the natural arthropod community on apple to external disturbance. Ecological Entomology 18:169-183.
- BROWN, M. W., C. R. L. ADLER, AND R. W. WEIRES. 1988. Insects associated with apple in the mid-Atlantic states. New York's Food and Life Sciences Bulletin 124:1-31.
- BROWN, W. D. 1993. The cause of size-assortative mating in the leaf beetle *Trirhabda canadensis* (Coleoptera: Chrysomelidae). Behavioral Ecology and Sociobiology 33:151-157.
- BROWN, W. J. 1938. Some new Canadian Chrysomelidae. The Canadian Entomologist 70:35-38.
- BROWN, W. J. 1940a. Notes on the American distribution of some species of Coleoptera common to the European and North American continents. The Canadian Entomologist 72:65-78.
- BROWN, W. J. 1940b. Some new species of Cantharidae and Chrysomelidae (Coleoptera). The Canadian Entomologist 72:161-166.
- BROWN, W. J. 1942a. The American species of *Phytodecta* Kby. (Coleoptera, Chrysomelidae). The Canadian Entomologist 74:99-105.
- BROWN, W. J. 1942b. The American species of *Entomoscelis* and *Hippuriphila* (Coleoptera, Chrysomelidae). The Canadian Entomologist 74:172-172.
- BROWN, W. J. 1943. The Canadian species of *Exema* and *Arthrochlamys* (Coleoptera, Chrysomelidae). The Canadian Entomologist 75:119-131.
- BROWN, W. J. 1944. The dimorphism in the male copulatory organ of the chrysomelid *Arthrochlamys bebbianae* Brown. The Canadian Entomologist 76:70-72.
- BROWN, W. J. 1945. Food-plants and distribution of the species of *Calligrapha* in Canada, with descriptions of new species (Coleoptera, Chrysomelidae). The Canadian Entomologist 77:117-133.
- BROWN, W. J. 1946. Some new Chrysomelidae, with notes on other species (Coleoptera). The Canadian Entomologist 78:47-54.
- BROWN, W. J. 1950. The extralimital distribution of some species of Coleoptera. The Canadian Entomologist 82:197-205.
- BROWN, W. J. 1951. The American species of *Phratora* Chev. (Coleoptera: Chrysomelidae). The Canadian Entomologist 83:121-130.
- BROWN, W. J. 1952. Some species of Phytophaga (Coleoptera). The Canadian Entomologist 84:335-342.
- BROWN, W. J. 1956. The New World species of *Chrysomela* L. (Coleoptera: Chrysomelidae). The Canadian Entomologist 88(Supplement 3):1-54.
- BROWN, W. J. 1958 (1956). Sibling species in the Chrysomelidae. Proceedings of the Tenth International Congress of Entomology 1:103-109.

- BROWN, W. J. 1959. Taxonomic problems with closely related species. *Annual Review of Entomology* 4:77-98.
- BROWN, W. J. 1960. The species problem in Coleoptera. *Revue Canadienne de Biologie* 19(3):263-278.
- BROWN, W. J. 1961. Notes on North American Chrysomelidae (Coleoptera). *The Canadian Entomologist* 93:967-977.
- BROWN, W. J. 1962. The American species of *Chrysolina* Mots. (Coleoptera: Chrysomelidae). *The Canadian Entomologist* 94:58-74.
- BROWN, W. J. 1964. Sibling species of leaf beetles. *The Canadian Entomologist* 96:104.
- BROWN, W. J. 1966. Chrysomelinae and Curculionidae (Coleoptera); descriptions and notes. *The Canadian Entomologist* 98:855-859.
- BROWN, W. J. 1967. Notes on the extralimital distribution of some species of Coleoptera. *The Canadian Entomologist* 99:85-93.
- BROWN, W. J. 1969. A new species of *Pyrrhalta* from Sable Island (Coleoptera: Chrysomelidae). *The Canadian Entomologist* 101:109.
- BRUCE, *. 1958. Golden tortoise beetle (*Metritona bicolor*). *Cooperative Economic Insect Report* 8(32):695.
- BRUES, C. T. 1924. The specificity of food-plants in the evolution of phytophagous insects. *The American Naturalist* 58:127-144.
- BRUES, C. T. 1940. Food preferences of the Colorado potato-beetle, *Leptinotarsa decemlineata* Say. *Psyche* 47(1):38-43.
- BRUNER, L. 1887. Report on Nebraska insects. United States Department of Agriculture, Division of Entomology, Bulletin 13:33-37.
- BRUNER, L. 1890. Insects injurious to young trees on tree claims. *Nebraska Agricultural Experiment Station Bulletin* 14:83-141.
- BRUNER, L. 1891a. Notes on beet insects. *Insect Life* 3:229-230.
- BRUNER, L. 1891b. Report on Nebraska insects. United States Department of Agriculture, Division of Entomology, Bulletin 23:9-18.
- BRUNER, L. 1891c. Experiments in the culture of the sugar beet in Nebraska. *Nebraska Agricultural Experiment Station Bulletin* 4(16):55-72.
- BRUNER, L. 1895. Insect enemies of the grape-vine. *Nebraska State Horticultural Report* 1895:68-162.
- BRUNER, S. C., L. C. SCARAMUZZA, AND A. R. OTERO. 1975. Catálogo de los Insectos que Atacan a las Plantas Económicas de Cuba. Segunda Edición Revisada y Aumentada. Academia de Ciencias de Cuba, Habana, Cuba. 401 pages.
- BRUST, G. E. AND R. E. FOSTER. 1995. Semiochemical-based toxic baits for control of striped cucumber beetle (Coleoptera: Chrysomelidae) in cantaloupe. *Journal of Economic Entomology* 88(1):112-116.
- BUCKINGHAM, G. R., D. BOUCIAS, AND R. F. THERIOT. 1983. Reintroduction of the alligatorweed flea beetle (*Agasicles hygrophila* Selman and Vogt) into the United States from Argentina. *Journal of Aquatic Plant Management* 21:101-102.
- BUCKINGHAM, G. R. AND M. BUCKINGHAM. 1981. A laboratory biology of *Pseudolampsis guttata* (LeConte) (Coleoptera: Chrysomelidae) on waterfern, *Azolla caroliniana* Willd. (Pteridophyta: Azollaceae). *The Coleopterists Bulletin* 35(2):181-188.
- BULLA, *. 1961. Striped flea beetle (*Phyllotreta striolata*). *Cooperative Economic Insect Report* 11(28):629.
- BUNTIN, G. D. AND L. P. PEDIGO. 1982. Foliage consumption and damage potential of *Odontota horni* and *Baliosus nervosus* (Coleoptera: Chrysomelidae) on soybean. *Journal of Economic Entomology* 75:1034-1037.
- BURBUTIS, P. P. 1959a. Pale-striped flea beetle (*Systema blanda*). *Cooperative Economic Insect Report* 9(25):540.
- BURBUTIS, P. P. 1959b. Flea beetles. *Cooperative Economic Insect Report* 9(25):543.
- BURBUTIS, P. P. 1959c. Potato flea beetle (*Epitrix cucumeris*). *Cooperative Economic Insect Report* 9(26):577.
- BURBUTIS, P. P. 1959d. Pale-striped flea beetle (*Systema blanda*). *Cooperative Economic Insect Report* 9(27):601.
- BURBUTIS, P. P. 1961a. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). *Cooperative Economic Insect Report* 11(24):498.
- BURBUTIS, P. P. 1961b. Potato flea beetle (*Epitrix cucumeris*). *Cooperative Economic Insect Report* 11(24):499.
- BURBUTIS, P. P. 1961c. Bean leaf beetle (*Cerotoma trifurcata*). *Cooperative Economic Insect Report* 11(24):506.
- BURBUTIS, P. P. 1962a. Bean leaf beetle (*Cerotoma trifurcata*). *Cooperative Economic Insect Report* 12(19):461.
- BURBUTIS, P. P. 1962b. Potato flea beetle (*Epitrix cucumeris*). *Cooperative Economic Insect Report* 12(21):519.
- BURBUTIS, P. P. 1962c. Pale-striped flea beetle (*Systema blanda*). *Cooperative Economic Insect Report* 12(29):791.
- BURBUTIS, P. P. 1962d. A flea beetle (*Phyllotreta cruciferae*). *Cooperative Economic Insect Report* 12(36):998.
- BURBUTIS, P. P. 1963a. Flea beetles (*Epitrix* spp.). *Cooperative Economic Insect Report* 13(20):519.
- BURBUTIS, P. P. 1963b. Flea beetles. *Cooperative Economic Insect Report* 13(22):580.
- BURBUTIS, P. P. 1963c. Pale-striped flea beetle (*Systema blanda*). *Cooperative Economic Insect Report* 13(26):707.
- BURBUTIS, P. P. 1963d. Strawberry rootworm (*Paria fragariae*). *Cooperative Economic Insect Report* 13(26):709.
- BURBUTIS, P. P. 1963e. Leaf beetles. *Cooperative Economic Insect Report* 13(26):722.
- BURBUTIS, P. P. 1963f. Rose leaf beetle (*Nodonota puncticollis*). *Cooperative Economic Insect Report* 13(26):725.
- BURBUTIS, P. P. 1967. Pale-striped flea beetle (*Systema blanda*). *Cooperative Economic Insect Report* 17(27):594.
- BURBUTIS, P. P. 1968. Northern corn rootworm (*Diabrotica longicornis*). *Cooperative Economic Insect Report* 18(34):811.
- BURBUTIS, P. P. 1975. Tobacco flea beetle (*Epitrix hirtipennis*). *Cooperative Economic Insect Report* 25(19):370.

Literature Cited

- BURBUTIS, P. P. AND J. R. BUTTRAM. 1962. Potato flea beetle (*Epitrix cucumeris*). Cooperative Economic Insect Report 12(20):490.
- BURBUTIS, P. P. AND M. S. CONRAD. 1958a. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 8(41):864.
- BURBUTIS, P. P. AND M. S. CONRAD. 1958b. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 8(46):941.
- BURBUTIS, P. P. AND M. S. CONRAD. 1958c. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 8(47):953.
- BURBUTIS, P. P. AND M. S. CONRAD. 1959. Corn flea beetle (*Chaetocnema pulicaria*). Cooperative Economic Insect Report 9(19):347.
- BURBUTIS, P. P. AND * CROSSAN. 1964. Flea beetles (*Epitrix* spp.). Cooperative Economic Insect Report 14(34):973.
- BURBUTIS, P. P. AND * DAVIS. 1966a. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 16(25):578.
- BURBUTIS, P. P. AND * DAVIS. 1966b. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 16(33):809.
- BURBUTIS, P. P. AND T. EVANS. 1963a. Flea beetles. Cooperative Economic Insect Report 13(30):861.
- BURBUTIS, P. P. AND T. EVANS. 1963b. A flea beetle (*Derocrepis erythropus*). Cooperative Economic Insect Report 13(30):867.
- BURBUTIS, P. P. AND L. E. JENKINS. 1963. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 13(27):747.
- BURBUTIS, P. P. AND A. MASON. 1959a. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 9(34):777.
- BURBUTIS, P. P. AND A. MASON. 1959b. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 9(40):900.
- BURBUTIS, P. P. AND A. MASON. 1959c. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 9(41):917.
- BURBUTIS, P. P. AND A. MASON. 1959d. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 9(44):963.
- BURBUTIS, P. P. AND A. MASON. 1960a. Flea beetles. Cooperative Economic Insect Report 10(20):382.
- BURBUTIS, P. P. AND A. MASON. 1960b. Potato flea beetle (*Epitrix cucumeris*). Cooperative Economic Insect Report 10(22):436.
- BURBUTIS, P. P. AND A. MASON. 1960c. Flea beetles. Cooperative Economic Insect Report 10(23):454.
- BURBUTIS, P. P. AND A. MASON. 1960d. Potato flea beetle (*Epitrix cucumeris*). Cooperative Economic Insect Report 10(23):464.
- BURBUTIS, P. P. AND A. MASON. 1960e. Potato flea beetle (*Epitrix cucumeris*). Cooperative Economic Insect Report 10(24):487.
- BURBUTIS, P. P. AND A. MASON. 1960f. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 10(24):487.
- BURBUTIS, P. P. AND A. MASON. 1960g. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 10(25):517.
- BURBUTIS, P. P. AND A. MASON. 1960h. Potato flea beetle (*Epitrix cucumeris*). Cooperative Economic Insect Report 10(25):521.
- BURBUTIS, P. P. AND A. MASON. 1960i. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 10(25):523.
- BURBUTIS, P. P. AND A. MASON. 1960j. Flea beetles. Cooperative Economic Insect Report 10(27):583.
- BURBUTIS, P. P. AND A. MASON. 1960k. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 10(27):592.
- BURBUTIS, P. P. AND A. MASON. 1960l. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 10(28):618.
- BURBUTIS, P. P. AND A. MASON. 1960m. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 10(28):623.
- BURBUTIS, P. P. AND A. MASON. 1960n. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 10(30):677.
- BURBUTIS, P. P. AND A. MASON. 1960o. Potato flea beetle (*Epitrix cucumeris*). Cooperative Economic Insect Report 10(30):681.
- BURBUTIS, P. P. AND A. MASON. 1960p. Flea beetles (*Epitrix* spp.). Cooperative Economic Insect Report 10(31):708.
- BURBUTIS, P. P. AND A. MASON. 1960q. Cucumber beetles. Cooperative Economic Insect Report 10(35):808.
- BURBUTIS, P. P. AND A. MASON. 1960r. Cucumber beetles (*Diabrotica* spp.). Cooperative Economic Insect Report 10(40):922.
- BURBUTIS, P. P. AND A. MASON. 1960s. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 10(45):1054.
- BURBUTIS, P. P. AND A. MASON. 1960t. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative

- Economic Insect Report 10(46):1078.
- BURBUTIS, P. P. AND A. MASON. 1961a. Bean leaf beetle (*Cerotoma trifurcata*). Cooperative Economic Insect Report 11(21):428.
- BURBUTIS, P. P. AND A. MASON. 1961b. Flea beetles. Cooperative Economic Insect Report 11(21):428.
- BURBUTIS, P. P. AND A. MASON. 1961c. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 11(25):527.
- BURBUTIS, P. P. AND A. MASON. 1961d. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 11(25):533.
- BURBUTIS, P. P. AND A. MASON. 1961e. Southern corn rootworm (*Diabrotica undecimpunctata howardi*), Delaware. Cooperative Economic Insect Report 11(26):563.
- BURBUTIS, P. P. AND A. MASON. 1961f. Potato flea beetle (*Epitrix cucumeris*). Cooperative Economic Insect Report 11(26):570.
- BURBUTIS, P. P. AND A. MASON. 1961g. Flea beetles (*Phyllotreta* spp.). Cooperative Economic Insect Report 11(26):571.
- BURBUTIS, P. P. AND A. MASON. 1961h. Southern corn rootworm (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 11(27):593.
- BURBUTIS, P. P. AND A. MASON. 1961i. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 11(28):623.
- BURBUTIS, P. P. AND A. MASON. 1961j. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 11(30):691.
- BURBUTIS, P. P. AND A. MASON. 1961k. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 11(33):778.
- BURBUTIS, P. P. AND A. MASON. 1961l. Potato flea beetle (*Epitrix cucumeris*). Cooperative Economic Insect Report 11(34):800.
- BURBUTIS, P. P. AND A. MASON. 1961m. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 11(34):800.
- BURBUTIS, P. P., A. MASON, J. CAPIZZI, AND H. E. MORRISON. 1961. Cucumber beetles (*Diabrotica* spp.). Cooperative Economic Insect Report 11(31):723-724.
- BURBUTIS, P. P., L. D. NEWSOM, AND * STEPHENSON. 1963. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 13(20):518.
- BURBUTIS, P. P. AND * WOODALL. 1965a. Potato flea beetle (*Epitrix cucumeris*). Cooperative Economic Insect Report 15(25):643.
- BURBUTIS, P. P. AND * WOODALL. 1965b. Cucumber beetles (*Diabrotica* spp.). Cooperative Economic Insect Report 15(34):968.
- BURGE, T. A., G. B. SPAWN, J. A. LOFGREN, AND W. M. HANTSBARGER. 1955. Summary of insect conditions – 1955, South Dakota. Cooperative Economic Insect Report 5(50):1102-1105.
- BURGESS, A. F. 1905. The elm leaf beetle, a new and destructive shade tree pest in Ohio. Ohio Department of Agriculture, Division of Nursery and Orchard Inspection, Bulletin 4:1-23.
- BURGESS, L. 1977. Flea beetles (Coleoptera: Chrysomelidae) attacking rape crops in the Canadian prairie provinces. The Canadian Entomologist 109:21-32.
- BURGESS, L. 1979. A flea beetle that feeds on the common plantain. Blue Jay 37(2):86-88.
- BURGESS, L. 1980a. The horseradish flea beetle in Saskatchewan. Blue Jay 38(1):11-13.
- BURGESS, L. 1980b. Predation on adults of the flea beetle *Phyllotreta cruciferae* by lacewing larvae (Neuroptera: Chrysomelidae). The Canadian Entomologist 112:745-746.
- BURGESS, L. 1981a. Flea beetles that attack rape and cruciferous garden crops in the prairie provinces. Canadex (Field Crop Insects) 622:1-2.
- BURGESS, L. 1981b. Occurrence of flea beetles outside the western rape growing area. Canadex (Plant Insects, Rapeseed) 620.149:1-2.
- BURGESS, L. 1981c. Crucifer-feeding flea beetles (Coleoptera: Chrysomelidae) occurring in the province of Saskatchewan, Canada. The Coleopterists Bulletin 35(3):307-309.
- BURGESS, L. 1982a. Occurrence of *Phyllotreta striolata*, the striped flea beetle, in open prairie, forest, and parkland of Saskatchewan (Coleoptera: Chrysomelidae). The Canadian Entomologist 114:439-446.
- BURGESS, L. 1982b. Occurrence of some flea beetle pests of parkland rapeseed crops in open prairie and forest in Saskatchewan (Coleoptera: Chrysomelidae). The Canadian Entomologist 114:623-627.
- BURGESS, L. AND J. E. WIENS. 1976. Maintaining a colony of the striped flea beetle, *Phyllotreta striolata* (Coleoptera: Chrysomelidae), in the greenhouse. The Canadian Entomologist 108:53-55.
- BURKE, H. R. 1963. Coleoptera associated with three species of *Solanum* in Texas. The Southwestern Naturalist 8(1):53-56.
- BURKE, H. R., J. A. JACKMAN, AND M. ROSE. 1974. Insects Associated with Woody Ornamental Plants in Texas. Texas Agricultural Experiment Station and Texas Agricultural Extension Service, College Station, Texas. 168 pages.
- BURKNESS, E. C. AND W. D. HUTCHISON. 1997. Development and validation of a binomial sequential sampling plan for striped cucumber beetle (Coleoptera: Chrysomelidae) in cucurbits. Journal of Economic Entomology 90(6):

Literature Cited

- 1590-1597.
- BURKNESS, E. C. AND W. D. HUTCHISON. 1998. Development and validation of a fixed-precision sampling plan for estimating striped cucumber beetle (Coleoptera: Chrysomelidae) density in cucurbits. *Environmental Entomology* 27(2):178-183.
- BURKOT, T. R. AND D. M. BENJAMIN. 1979. The biology and ecology of the cottonwood leaf beetle, *Chrysomela scripta* (Coleoptera: Chrysomelidae), on tissue cultured hybrid *Aigeiros* (*Populus x euramericana*) subclones in Wisconsin. *The Canadian Entomologist* 111:551-556.
- BURNS, E. C. 1954. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). *Cooperative Economic Insect Report* 4(18):358.
- BURNS, E. C. AND L. D. NEWSOM. 1954. Banded cucumber beetle (*Diabrotica balteata*). *Cooperative Economic Insect Report* 4(28):632.
- BURNSIDE, J. A. AND B. D. BARRY. 1976 (1975). Destruction of cantaloupe seedlings by cucumber beetles. *Proceedings of the Indiana Academy of Science* 85:247.
- BUTCHER, F. G. 1932. Studies of the striped and spotted cucumber beetles. *Journal of Economic Entomology* 25:658-662.
- BUTTE, J. G. 1968a. Revision of the tribe Chalepini of America north of Mexico. I. Genus *Xenochalepus* Weise (Coleoptera: Chrysomelidae). *The Coleopterists Bulletin* 22:45-62.
- BUTTE, J. G. 1968b. The revision of the tribe Chalepini of America north of Mexico. II. Genus *Chalepus* Thunberg (Coleoptera: Chrysomelidae). *Journal of the New York Entomological Society* 76:117-133.
- BUTTE, J. G. 1968c. The revision of the tribe Chalepini of America north of Mexico. III. Genus *Odontota* Chevrolat (Coleoptera: Chrysomelidae). *The Coleopterists Bulletin* 22:101-124.
- BUTTE, J. G. 1969. Revision of the tribe Chalepini of America north of Mexico. IV. Genus *Sumitrosis* Butte (Coleoptera: Chrysomelidae). *Journal of the New York Entomological Society* 77:12-30.
- BUTTRAM, J. R. 1962. Beet leaf beetle (*Erynephala puncticollis*). *Cooperative Economic Insect Report* 12(22):567.
- BUTTRAM, J. R. 1963. Southern corn rootworm (*Diabrotica undecimpunctata howardi*). *Cooperative Economic Insect Report* 13(1):3.
- BUZZI, Z. J. 1988. Biology of Neotropical Cassidinae. Pages 559-58 in P. Jolivet, E. Petitpierre, and T. H. Hsiao (eds.). *Biology of Chrysomelidae*. Kluwer Academic Publishers, The Netherlands.
- BUZZI, Z. J. 1994. Host plants of Neotropical Cassidinae. Pages 205-212 in P. H. Jolivet, M. L. Cox, and P. Petitpierre (eds.). *Novel Aspects of the Biology of Chrysomelidae*. Kluwer Academic Publishers, The Netherlands.
- CAGÁN, L., M. VRÁBLOVÁ, AND P. TÓTH. 2000. Flea beetles (Chrysomelidae: Alticinae) species occurring on *Amaranthus* spp. in Slovakia. *Journal of Central European Agriculture* 1(1):14-25.
- CALDBECK, E. S., H. S. McNABB, AND E. R. HART. 1978. Poplar clonal preferences of the cottonwood leaf beetle. *Journal of Economic Entomology* 71(3):518-520.
- CALKINS, C., H. STEVENS, AND P. W. BERGMAN. 1963. Cucumber beetles (*Diabrotica* spp.). *Cooperative Economic Insect Report* 13(48):1362.
- CAMERON, A. E. 1915. Potato spraying and dusting in New Jersey, U.S.A. *Bulletin of Entomological Research* 6:1-21.
- CAMERON, E. 1935. A study of the natural control of ragwort (*Senecio jacobaea* L.). *The Journal of Ecology* 23(2):265-322.
- CAMPBELL, *. 1969a. Spotted cucumber beetle (*Diabrotica undecimpunctata tenella*). *Cooperative Economic Insect Report* 19(10):148.
- CAMPBELL, *. 1969b. A spotted cucumber beetle (*Diabrotica undecimpunctata tenella*). *Cooperative Economic Insect Report* 19(13):213.
- CAMPBELL, C. L. AND J. P. McCAFFREY. 1991. Population trends, seasonal phenology, and impact of *Chrysolina quadrigemina*, *C. hyperici* (Coleoptera: Chrysomelidae), and *Agrilus hyperici* (Coleoptera: Buprestidae) associated with *Hypericum perforatum* in northern Idaho. *Environmental Entomology* 20(1):303-315.
- CAMPBELL, J. M. AND W. J. CLARK. 1983. Observations on host selection by *Lysathia ludoviciana* (Chrysomelidae), a beetle with potential for biological control of certain aquatic weeds. *The Texas Journal of Science* 35(2):165-167.
- CAMPBELL, R. E. 1953. Western black flea beetle (*Phyllotreta pusilla*). *Cooperative Economic Insect Report* 3(12):213.
- CAMPBELL, W. V. AND D. A. EMERY. 1967. Some environmental factors affecting feeding, oviposition, and survival of the southern corn rootworm. *Journal of Economic Entomology* 60(6):1675-1678.
- CAMPOBASSO, G., E. COLONNELLI, L. KNUTSON, G. TERRAGITTI, AND M. CRISTOFARO. 1999. Wild plants and their associated insects in the Palearctic Region, primarily Europe and the Middle East. United States Department of Agriculture, Agricultural Research Service, ARS-147. 243 pages.
- CAÑAS CASTRO, L. A. 2000. Population ecology of *Leptinotarsa undecimlineata* Stal (Coleoptera: Chrysomelidae) and their effects on *Solanum lanceolatum* Cav in Honduras. Ph.D. Dissertation. Purdue University, West Lafayette, Indiana. 115 pages.
- CANCIENNE, E. A. 1964a. Cucumber beetles. *Cooperative Economic Insect Report* 14(23):578.
- CANCIENNE, E. A. 1964b. Banded-cucumber beetle (*Diabrotica balteata*). *Cooperative Economic Insect Report* 14(29):794.
- CANCIENNE, E. A. 1964c. Flea beetles. *Cooperative Economic Insect Report* 14(29):802.

- CANCIENNE, E. A. 1964d. Banded cucumber beetle (*Diabrotica balteata*). Cooperative Economic Insect Report 14(29): 802.
- CANCIENNE, E. A. AND L. D. NEWSOM. 1961. Banded cucumber beetle (*Diabrotica balteata*). Cooperative Economic Insect Report 11(20):398.
- CANERDAY, * AND * HOLLINGSWORTH. 1965. Potato flea beetle (*Epitrix cucumeris*). Cooperative Economic Insect Report 15(22):545.
- CANNON, W. J. 1970. Distribution records of the locust leaf miner, *Odontota dorsalis* (Thun.), in the United States. Entomological News 81:115-120.
- CANTELO, W. W., L. W. DOUGLASS, L. L. SANFORD, S. L. SINDEN, AND K. L. DEAHL. 1987. Measuring resistance to the Colorado potato beetle (Coleoptera: Chrysomelidae) in potato. Journal of Entomological Science 22(3): 245-257.
- CAPEK, M. 1971. The possibility of biological control of imported weeds of the genus *Solidago* L. in Europe. Acta Instituti Forestalis Zvolensis 1971:429-441.
- CAPINERA, J. L. 1978. Consumption of sugarbeet foliage by the palestriped flea beetle. Journal of Economic Entomology 71(2):301-303.
- CAPINERA, J. L. AND J. H. LILLY. 1975. Bionomics and biotic control of the asparagus beetle, *Crioceris asparagi*, in western Massachusetts. Environmental Entomology 4(1):93-96.
- CAPIZZI, J. 1956. Summary of insect conditions – 1955, Oregon. Cooperative Economic Insect Report 6(7):120-126.
- CAPIZZI, J. 1957a. Summary of insect conditions – 1956, Oregon. Cooperative Economic Insect Report 7(10):177-181.
- CAPIZZI, J. 1957b. A leaf beetle (*Syneta albida*). Cooperative Economic Insect Report 7(17):323.
- CAPIZZI, J. 1958a. Summary of insect conditions – 1957, Oregon. Cooperative Economic Insect Report 8(5):79-83.
- CAPIZZI, J. 1958b. Western spotted cucumber beetle (*Diabrotica undecimpunctata*). Cooperative Economic Insect Report 8(14):257.
- CAPIZZI, J. 1958c. Summary of insect conditions – 1958, Oregon. Cooperative Economic Insect Report 8(50):997-1001.
- CAPPAERT, D. L. 1988. Ecology of the Colorado Potato Beetle in Mexico. M. S. Thesis. Michigan State University, East Lansing, Michigan. 117 pages.
- CAPPAERT, D. L., F. A. DRUMMOND, AND P. A. LOGAN. 1991a. Incidence of natural enemies of the Colorado potato beetle, *Leptinotarsa decemlineata* (Coleoptera: Chrysomelidae) on a native host in Mexico. Entomophaga 36(3):369-378.
- CAPPAERT, D. L., F. A. DRUMMOND, AND P. A. LOGAN. 1991b. Population dynamics of the Colorado potato beetle (Coleoptera: Chrysomelidae) on a native host in Mexico. Environmental Entomology 20(6):1549-1555.
- CAPPUCCINO, N. 1991a. Mortality of *Microrhopala vittata* (Coleoptera: Chrysomelidae) in outbreak and nonoutbreak sites. Environmental Entomology 20(3):865-871.
- CAPPUCCINO, N. 1991b. Density dependence in the mortality of phytophagous insects on goldenrod (*Solidago altissima*). Environmental Entomology 20(4):1121-1128.
- CARDONA, C., R. GONZÁLEZ, AND A. V. SCHOONHOVEN. 1982. Evaluation of damage to common beans by larvae and adults of *Diabrotica balteata* and *Cerotoma facialis*. Journal of Economic Entomology 75(2):324-327.
- CARNER, G. R., M. SHEPARD, AND S. G. TURNIPSEED. 1974. Seasonal abundance of insect pests of soybean. Journal of Economic Entomology 67(4):487-493.
- CARR, F. S. 1920. An Annotated List of the Coleoptera of Northern Alberta. The Alberta Natural History Society, Red Deer, Alberta. 8 pages.
- CARR, F. S. 1932. New Arctic Coleoptera. The Canadian Entomologist 64(8):191-192.
- CARR, H. E. 1988. The Leaf Beetles of California (Coleoptera: Chrysomelidae). M. A. Thesis. San Jose State University, San Jose, California. 371 pages, plus appendices of 144, 21, and 44 pages.
- CARTER, C. D. 1987. Screening *Solanum* germplasm for resistance to Colorado potato beetle. American Potato Journal 64:563-568.
- CARTWRIGHT, B. AND L. T. KOK. 1990. Feeding by *Cassida rubiginosa* (Coleoptera: Chrysomelidae) and the effects of defoliation on growth of musk thistle. Journal of Entomological Science 25:538-547.
- CASAGRANDE, R. A. 1982. Colorado potato beetle resistance in a wild potato, *Solanum berthaultii*. Journal of Economic Entomology 75(2):368-372.
- CASAGRANDE, R. A. 1985. The "Iowa" potato beetle, its discovery and spread to potatoes. Bulletin of the Entomological Society of America 31:27-29.
- CASAGRANDE, R. A. 1987. The Colorado potato beetle: 125 years of mismanagement. Bulletin of the Entomological Society of America 33:142-150.
- CASAGRANDE, R. A. 1999. Lily leaf beetle spreads through New England. American Nurseryman 189(6):12.
- CASARI, S. A. AND C. N. DUCKETT. 1998 (1997). Description of immature stages of two species of *Pseudolampsis* (Coleoptera: Chrysomelidae) and the establishment of a new combination in the genus. Journal of the New York Entomological Society 105(1-2):50-64.
- CASHMORE, A. B. AND T. G. CAMPBELL. 1946. The weeds problem in Australia: a review. Journal of the Council for Scientific and Industrial Research 19(1):16-31.
- CASSANI, J. R. 1981. Native insect versus native weed. Aquatics 3(3):14-15.
- CASSIDY, J. 1889. Notes on insects and insecticides. Colorado Agricultural Experiment Station Bulletin 6:1-20.

Literature Cited

- CASTRO, T. R. AND G. E. GUYER. 1963. Notes on the biology, distribution and potential importance of *Oulema melanopa* (L.) in the Midwest. Proceedings of the North Central Branch, Entomological Society of America 18:74.
- CASTRO, T. R. AND W. M. RING. 1963. Cereal leaf beetle (*Oulema melanopa*). Cooperative Economic Insect Report 13(29):814.
- CASTRO, T. R., R. F. RUPPEL, AND M. S. GOMULINSKI. 1965. Natural history of the cereal leaf beetle in Michigan. Michigan State University, Agricultural Experiment Station, Quarterly Bulletin 47:623-653.
- CATH, * AND * TURNER. 1963. Cereal leaf beetle (*Oulema melanopa*). Cooperative Economic Insect Report 13(17):428.
- CAULFIELD, F. B. 1884. Remarks on *Chrysomela scalaris*, Lec., *Chrysomela labyrinthica*, Lec., and *Physonota unipunctata*, Say. The Canadian Entomologist 16:226-227.
- CAULFIELD, F. B. 1885. Notes on *Chrysomela scalaris* Lec. The Canadian Entomologist 17(11):230.
- CAULFIELD, F. B. 1886a. *Chrysomela elegans*, Rogers. The Canadian Entomologist 18:40.
- CAULFIELD, F. B. 1886b. On *Physonota unipunctata* Say, and its supposed varieties. The Canadian Entomologist 18: 41-45.
- CAULFIELD, F. B. 1886c. [untitled]. Entomological Society of Ontario, Annual Report 16:11.
- CAULFIELD, F. B. 1887. Some further notes on *Physonota*. The Canadian Entomologist 19:73-76.
- CAVEY, J. F. 1987. Observations of early spring activity of leaf beetles (Coleoptera: Chrysomelidae) in Maryland. Maryland Entomologist 3(1):20-23.
- CAVEY, J. F. 1994. Annotated new distributional records for North American Chrysomelidae (Coleoptera). The Coleopterists Bulletin 48(1):1-9.
- CHABOO, C. S. AND L. BOROWIEC. 2003. Annotated checklist of tortoise beetles of Trinidad and Tobago (Coleoptera: Chrysomelidae: Cassidinae). The Coleopterists Bulletin 57(1):71-78.
- CHAGNON, G. 1917. A preliminary list of the insects of the Province of Quebec. Part III – Coleoptera. Supplement to Report of the Quebec Society for the Protection of Plants, 1916-17. pp. 161-277.
- CHAGNON, G. 1937. Contribution a l'étude des coléoptères de la province de Québec. Le Naturaliste Canadien 64:22-30, 101-117, 218-228, 243-253.
- CHAGNON, G. 1938. Contribution a l'étude des coléoptères de la province de Québec. Le Naturaliste Canadien 65:13-23, 157-166.
- CHAGNON, G. 1939. Contribution a l'étude des coléoptères de la province de Québec. Le Naturaliste Canadien 66:8-16, 38-46, 97-105, 166-178, 197-205, 229-238.
- CHAGNON, G. AND A. ROBERT. 1962. Principaux Coléoptères de la Province de Québec, 2ème Édition. Les Presses de l'Université de Montréal, Montreal, Canada. 440 pp.
- CHALFANT, R. B. AND E. R. MITCHELL. 1967a. Some effects of food and substrate on oviposition of the spotted cucumber beetle. Journal of Economic Entomology 60(4):1010-1012.
- CHALFANT, R. B. AND E. R. MITCHELL. 1967a. Laboratory evaluation of peanut varieties for resistance to the southern corn rootworm. Journal of Economic Entomology 60(5):1450-1451.
- CHAMBERLAIN, G. C. AND W. L. PUTNAM. 1955. Diseases and insect pests of the raspberry in Canada. Canada Department of Agriculture, Publication 880 (revised):1-34.
- CHAMBERLIN, F. S. AND J. N. TENHET. 1923. The tobacco flea-beetle in the southern cigar-wrapper district. United States Department of Agriculture, Farmers' Bulletin 1352:1-9.
- CHAMBERLIN, F. S. AND J. N. TENHET. 1924. Life-history studies of the tobacco flea-beetle in the southern cigar-wrapper district. Journal of Agricultural Research 29(12):575-584.
- CHAMBERLIN, F. S. AND H. H. TIPPINS. 1948. *Microtheca ochroloma*, an introduced pest of crucifers, found in Alabama. Journal of Economic Entomology 41(6):979-980.
- CHAMBERLIN, J. C. 1949. Insects of agricultural and household importance in Alaska with suggestions for their control. Alaska Agricultural Experiment Station Circular 9:1-59.
- CHAMBERS, V. T. 1872. On some leaf-mining Coleoptera. The Canadian Entomologist 4:123-125.
- CHAMBERS, V. T. 1880. Insects attacking the black locust (*Robinia pseudacacia*). The American Entomologist 3(3): 59-61.
- CHAPIN, J. B. 1979. A review of the Louisiana species of *Colaspis* (Coleoptera: Chrysomelidae). The Coleopterists Bulletin 33(4):445-450.
- CHARLET, L. D. 1992. Seasonal abundance and parasitism of the sunflower beetle (Coleoptera: Chrysomelidae) on cultivated sunflower in the northern Great Plains. Journal of Economic Entomology 85(3):766-771.
- CHARLET, L. D., D. D. KOPP, AND C. Y. OSETO. 1987. Sunflowers: their history and associated insect community in the northern Great Plains. Bulletin of the Entomological Society of America 33(2):69-75.
- CHEN, S. H. 1961. New species of Chinese Chrysomelidae. Acta Entomologica Sinica 10(4-6):433-435.
- CHERNOV, Y. I., L. N. MEDVEDEV, AND O. A. KHRULEVA. 1994. Leaf beetles (Coleoptera, Chrysomelidae) in the Arctic. Entomological Review 73(2):152-167.
- CHEVIN, H. 1964. Contribution a l'étude biologique de *Gastrophysa polygoni* L. (Coleoptera Chrysomelidae). Annales des Épiphyties 15(3):197-203.
- CHIANG, H. C. 1973. Bionomics of the northern and western corn rootworms. Annual Review of Entomology 18:47-72.
- CHIANG LOK, M. L., W. HEYER, AND B. CRUZ. 1987. Influencia de la temperatura sobre el desarrollo de los estadios biológicos de *Systema basalidis*. Ciencias de la Agricultura 30:7-12.

- CHIN, C. T. 1950. Studies on the physiological relations between the larvae of *Leptinotarsa decemlineata* Say and some solanaceous plants. Tijdschrift over Plantenziekten 56:1-88.
- CHIO, H., C. CHANG, R. L. METCALF, AND J. SHAW. 1978. Susceptibility of four species of *Diabrotica* to insecticides. Journal of Economic Entomology 71(3):389-393.
- CHITTENDEN, F. H. 1892. Notes on the food habits of some species of Chrysomelidae. Proceedings of the Entomological Society of Washington 2(2):261-267.
- CHITTENDEN, F. H. 1895a. Some coleopterous enemies of the grape-vine. Insect Life 7:384-387.
- CHITTENDEN, F. H. 1895b. The horse-radish flea-beetle (*Phyllotreta armoraciae* Koch.). Insect Life 7:404-406.
- CHITTENDEN, F. H. 1895c. A leaf-beetle of the golden-rod. Proceedings of the Entomological Society of Washington 3(4):273-275.
- CHITTENDEN, F. H. 1897a. The rose leaf-beetle (*Nodonota puncticollis* Say.). United States Department of Agriculture, Division of Entomology, Bulletin (New Series) 7:60-61.
- CHITTENDEN, F. H. 1897b. Notes on certain species of Coleoptera that attack useful plants. United States Department of Agriculture, Division of Entomology, Bulletin (New Series) 9:20-24.
- CHITTENDEN, F. H. 1897c. The bean leaf-beetle (*Cerotoma trifurcata* Forst.). United States Department of Agriculture, Division of Entomology, Bulletin (New Series) 9:64-71.
- CHITTENDEN, F. H. 1897d. The asparagus beetles. Yearbook of the United States Department of Agriculture, 1896: 341-352.
- CHITTENDEN, F. H. 1898a. Notes on cucumber beetles. United States Department of Agriculture, Division of Entomology, Bulletin (New Series) 10:27-31.
- CHITTENDEN, F. H. 1898b. Insects that affect asparagus. United States Department of Agriculture, Division of Entomology, Bulletin (New Series) 10:54-62.
- CHITTENDEN, F. H. 1898c. The tobacco flea-beetle (*Epitrix parvula* Fab.). United States Department of Agriculture, Division of Entomology, Bulletin (New Series) 10:79-82.
- CHITTENDEN, F. H. 1898d. A flea-beetle living on purslane. United States Department of Agriculture, Division of Entomology, Bulletin (New Series) 18:83-85.
- CHITTENDEN, F. H. 1898e. A new sugar-beet beetle. United States Department of Agriculture, Division of Entomology, Bulletin (New Series) 18:95.
- CHITTENDEN, F. H. 1898f. A leaf-beetle injurious to cultivated sunflowers. United States Department of Agriculture, Division of Entomology, Bulletin (New Series) 18:96.
- CHITTENDEN, F. H. 1899a. Insects injurious to beans and peas. Yearbook of the United States Department of Agriculture, 1898:233-260.
- CHITTENDEN, F. H. 1899b. Some insects injurious to garden and orchard crops. United States Department of Agriculture, Division of Entomology, Bulletin (New Series) 19:1-99.
- CHITTENDEN, F. H. 1900. Some insects injurious to garden crops. United States Department of Agriculture, Division of Entomology, Bulletin (New Series) 23:1-92.
- CHITTENDEN, F. H. 1902a. Some insects injurious to vegetable crops. United States Department of Agriculture, Division of Entomology, Bulletin (New Series) 33:1-117.
- CHITTENDEN, F. H. 1902b. The leaf-mining locust beetle, with notes on related species. United States Department of Agriculture, Division of Entomology, Bulletin (New Series) 38:70-89.
- CHITTENDEN, F. H. 1903a. Notes on the larger sugar-beet leaf-beetle. (*Monoxia puncticollis*). United States Department of Agriculture, Division of Entomology, Bulletin (New Series) 40:111-113.
- CHITTENDEN, F. H. 1903b. A brief account of the principal insect enemies of the sugar beet. United States Department of Agriculture, Division of Entomology, Bulletin (New Series) 43:1-70.
- CHITTENDEN, F. H. 1903c. The principal insect enemies of the sugar beet. United States Department of Agriculture Report 74:157-221.
- CHITTENDEN, F. H. 1903d. The striped cucumber beetle (*Diabrotica vittata* Fab.). United States Department of Agriculture, Division of Entomology, Circular 31 (revised edition):1-6.
- CHITTENDEN, F. H. 1904a. Insects injurious to basket willow. United States Department of Agriculture, Bureau of Forestry, Bulletin 46:63-80.
- CHITTENDEN, F. H. 1904b. The leaf-mining locust beetle, with notes on related species. United States Department of Agriculture, Bureau of Entomology, Bulletin 38 (revised edition):70-89.
- CHITTENDEN, F. H. 1904c. New habits of the cucumber flea-beetle (*Epitrix cucumeris* Harr.). United States Department of Agriculture, Division of Entomology, Bulletin 44:96.
- CHITTENDEN, F. H. 1905a. The corn root-worms. United States Department of Agriculture, Bureau of Entomology, Circular 59:1-8.
- CHITTENDEN, F. H. 1905b. The pond-lily leaf-beetle (*Galerucella nymphaeae* Linn.). United States Department of Agriculture, Bureau of Entomology, Bulletin 54:58-60.
- CHITTENDEN, F. H. 1907a. The Colorado potato beetle (*Leptinotarsa decemlineata* Say.). United States Department of Agriculture, Bureau of Entomology, Circular 87:1-15.
- CHITTENDEN, F. H. 1907b. Notes on the asparagus beetles. United States Department of Agriculture, Bureau of Entomology, Bulletin 66:6-10.

Literature Cited

- CHITTENDEN, F. H. 1907c. The water-cress leaf-beetle (*Phaedon aeruginosa* Suffr.). United States Department of Agriculture, Bureau of Entomology, Bulletin 66:16-20.
- CHITTENDEN, F. H. 1908. The asparagus beetles. United States Department of Agriculture, Bureau of Entomology, Circular 102:1-12.
- CHITTENDEN, F. H. 1909a. Some insects injurious to truck crops, the hop flea-beetle (*Psylliodes punctulata* Melsh.). United States Department of Agriculture, Bureau of Entomology, Bulletin 66:71-92.
- CHITTENDEN, F. H. 1909b. Miscellaneous notes on truck-crop insects. United States Department of Agriculture, Bureau of Entomology, Bulletin 66:93-97.
- CHITTENDEN, F. H. 1909c. The striped cucumber beetle. (*Diabrotica vittata* Fab.). United States Department of Agriculture, Bureau of Entomology, Circular 31 (Second Revision):1-8.
- CHITTENDEN, F. H. 1910. Some insects injurious to truck crops. Notes on the cucumber beetles. United States Department of Agriculture, Bureau of Entomology, Bulletin 82(6):67-75.
- CHITTENDEN, F. H. 1912a. The yellow-necked flea-beetle (*Disonycha mellicollis* Say). United States Department of Agriculture, Bureau of Entomology, Bulletin 82:29-32.
- CHITTENDEN, F. H. 1912b. Insect Injurious to Vegetables. Orange Judd Company, New York. 262 pages.
- CHITTENDEN, F. H. 1917. The asparagus beetles and their control. United States Department of Agriculture, Farmers' Bulletin 837:1-13.
- CHITTENDEN, F. H. 1919. The striped cucumber beetle and its control. United States Department of Agriculture, Farmers' Bulletin 1038:1-20.
- CHITTENDEN, F. H. 1920. A new species of *Phyllotreta*. Journal of the Washington Academy of Sciences 10:389-390.
- CHITTENDEN, F. H. 1921. The beet leaf-beetle and its control. United States Department of Agriculture, Farmers' Bulletin 1193:1-8.
- CHITTENDEN, F. H. 1922. The amaranth flea-beetle. Bulletin of the Brooklyn Entomological Society 17:147-149.
- CHITTENDEN, F. H. 1923a. Notes on the distribution and habits of North American *Phyllotreta* (Coleop.). Proceedings of the Entomological Society of Washington 25(5-6):131-139.
- CHITTENDEN, F. H. 1923b. The striped cucumber beetle and how to control it. United States Department of Agriculture, Farmers' Bulletin 1322:1-16.
- CHITTENDEN, F. H. 1924a. The argus tortoise beetle. Journal of Agricultural Research 27(1):43-51.
- CHITTENDEN, F. H. 1924b. The acalypha flea beetle (*Crepidodera atriventris* Melsh.). The Canadian Entomologist 56:286.
- CHITTENDEN, F. H. 1924c. The return of *Leptinotarsa juncta* Germ. to the District of Columbia. Bulletin of the Brooklyn Entomological Society 19:37.
- CHITTENDEN, F. H. 1924d. *Diabrotica tricolor* Say injurious in New Mexico. Bulletin of the Brooklyn Entomological Society 19:184-185.
- CHITTENDEN, F. H. 1925a. Note on the sweet-potato leaf-beetle and a related Mexican form. Bulletin of the Brooklyn Entomological Society 20:91-92.
- CHITTENDEN, F. H. 1925b. *Chalcoides fulvicornis* Fab. Journal of the New York Entomological Society 33(2):120.
- CHITTENDEN, F. H. 1926. A foreign cabbage flea-beetle in the United States. Proceedings of the Entomological Society of Washington 28(6):139-141.
- CHITTENDEN, F. H. 1927. The species of *Phyllotreta* north of Mexico. Entomologica Americana (n. s.) 8(1):1-63.
- CHITTENDEN, F. H. AND N. F. HOWARD. 1917. The horse-radish flea-beetle: its life history and distribution. United States Department of Agriculture Bulletin 535:1-16.
- CHITTENDEN, F. H. AND H. O. MARSH. 1909. The yellow-necked flea-beetle. (*Disonycha mellicollis* Say.). United States Department of Agriculture, Bureau of Entomology, Bulletin 82 (Part III):29-32.
- CHITTENDEN, F. H. AND H. O. MARSH. 1920a. The beet leaf-beetle. United States Department of Agriculture Bulletin 892:1-24.
- CHITTENDEN, F. H. AND H. O. MARSH. 1920b. The western cabbage flea-beetle. United States Department of Agriculture Bulletin 902:1-21.
- CHITTENDEN, F. H. AND W. A. ORTON. 1923. Increasing the potato crop by spraying. United States Department of Agriculture, Farmers' Bulletin 1349:1-22.
- CHUPP, C. AND R. W. LEIBY. 1953. The control of diseases and insects affecting vegetable crops. Cornell Extension Bulletin 206 (revised):1-110.
- CIBRIÁN TOVAR, D., J. T. MÉNDEZ MONTIEL, R. CAMPOS BOLAÑOS, H. O. YATES, AND J. E. FLORES LARA. 1995. Insectos Forestales de México. Forest Insects of Mexico. Universidad Autónoma Chapingo, Chapingo, Mexico. 453 pages.
- CIBULA, A. B., R. H. DAVIDSON, F. W. FISK, AND J. B. LAPIDUS. 1967. Relationship of free amino acids of some solanaceous plants to growth and development of *Leptinotarsa decemlineata* (Coleoptera: Chrysomelidae). Annals of the Entomological Society of America 60(3):626-631.
- CIBULA, A. B., F. W. FISK, AND R. H. DAVIDSON. 1965. Comparative studies of free amino acids of potato beetle hemolymph. Proceedings of the North Central Branch, Entomological Society of America 20:74-75.
- CINERESKI, J. E. AND H. C. CHIANG. 1968. The pattern of movements of adults of the northern corn rootworm inside and outside of corn fields. Journal of Economic Entomology 61(6):1531-1536.

- CLARK, S. M. 1983. A revision of the genus *Microrhopala* (Coleoptera: Chrysomelidae) in America north of Mexico. The Great Basin Naturalist 43(4):597-617.
- CLARK, S. M. 1986. Occurrence of *Monocesta coryli* (Say) in Ohio (Coleoptera: Chrysomelidae). Ohio Journal of Science 86(4):213.
- CLARK, S. M. 1987. A Revision of the Section Scelidites in the Western Hemisphere (Coleoptera: Chrysomelidae). Ph.D. Dissertation. The Ohio State University, Columbus, Ohio. 397 pages.
- CLARK, S. M. 1993. Leaf beetles. Pages 165-167 in S. L. Stephenson (ed.). Upland Forests of West Virginia. McClain Printing Co., Parsons, West Virginia.
- CLARK, S. M. 1996. The genus *Scelolyperus* Crotch in North America (Coleoptera: Chrysomelidae: Galerucinae). Insecta Mundi 10(1-4):261-280.
- CLARK, S. M. 2000. An annotated list of the leaf beetles of West Virginia (Coleoptera: Orsodacnidae, Megalopodidae, Chrysomelidae exclusive of Bruchinae). Occasional Publications of the West Virginia Department of Agriculture 1:1-93.
- CLARK, S. M. 2001 (1999). The western North American genus *Androlyperus* Crotch, 1873 (Coleoptera: Chrysomelidae: Galerucinae). Insecta Mundi 13(3-4):217-227.
- CLARK, S. M. AND J. F. CAVEY. 1995. A new species of *Calligrapha* (Coleoptera: Chrysomelidae) from eastern North America. Insecta Mundi 9(3-4):329-333.
- CLARK, S. M. AND P. JOLIVET. 2000. *Timarcha* lives (in Montana)! Chrysomela Newsletter 38/39:3.
- CLARK, S. M. AND E. G. RILEY. 2002. Orsodacnidae Thompson 1859. Pages 613-616 in R. H. Arnett, M. C. Thomas, P. E. Skelley, and J. H. Frank (eds.). American Beetles. Volume 2. Polyphaga: Scarabaeoidea through Curculionoidea. CRC Press, Boca Raton, Florida.
- CLARK, W. J., F. A. HARRIS, F. G. MAXWELL, AND E. E. HARTWIG. 1972. Resistance of certain soybean cultivars to bean leaf beetle, striped blister beetle, and bollworm. Journal of Economic Entomology 65(6):1669-1672.
- CLARKSON, F. 1884. *Galeruca xanthomelaena*, Schrank. The Canadian Entomologist 16:124-125.
- CLAUSEN, C. P. (ED.). 1978. Introduced parasites and predators of arthropod pests and weeds: A world review. United States Department of Agriculture, Agricultural Research Service, Agriculture Handbook 480:i-vi, 1-545.
- CLEVELAND, M. L. AND D. W. HAMILTON. 1959 (1958). The insect fauna of apple trees in southern Indiana, 1956 and 1957. Proceedings of the Indiana Academy of Science 68:205-217.
- CLOPP, * AND M. H. FARRIER. 1956. Elongate flea beetle (*Systema elongata*). Cooperative Economic Insect Report 6(21):461.
- COBIA, D. W. AND D. E. ZIMMER. 1978. Sunflower production and marketing. North Dakota State University Extension Bulletin 25(revised):1-73.
- COCKERELL, T. D. A. 1888. The natural food-plant of *Graptodera foliaceae* Lec. Insect Life 1(16):199.
- COCKERELL, T. D. A. 1897. Biological notes on some Coleoptera from New Mexico. Journal of the New York Entomological Society 5:149-150.
- COCKERELL, T. D. A. 1900. Observations on insects. New Mexico Agricultural Experiment Station Bulletin 35:1-27.
- COCKERELL, T. D. A. 1902. Records of the habits of New Mexican Coleoptera. Psyche 9:378-380.
- COCKERELL, T. D. A. 1903. *Cassida nigripes*. Entomological News 14:207.
- COCKERELL, T. D. A. 1917. Some sunflower insects. Journal of Economic Entomology 10(6):561-562.
- COCKERHAM, K. L. 1952. Banded cucumber beetle (*Diabrotica balteata*). Cooperative Economic Insect Report 2(23):318.
- COLE, A. C. 1931. *Typha* insects and their parasites. Entomological News 42(2):35-39.
- COLE, A. E. 1968. Common Nursery Insects and Their Control. West Virginia Department of Agriculture, Charleston, West Virginia. 67 pages.
- COLE, A. E. 1974. A leaf beetle (*Chalepus scapularis*). Cooperative Economic Insect Report 24(23):413.
- COLLINS, C. W. 1939. The elm leaf beetle. United States Department of Agriculture, Leaflet 184:1-6.
- COMSTOCK, J. H. 1880. Report of the Entomologist. Pages 185-348 in United States Department of Agriculture, Report of the Commissioner of Agriculture for the year 1879.
- COMSTOCK, J. H. 1925. An Introduction to Entomology, Second Complete Edition. The Comstock Publishing Company, Ithaca, New York. 1044 pages.
- COMSTOCK, J. H., A. B. COMSTOCK, AND G. W. HERRICK. 1931. A Manual for the Study of Insects, Twentieth Edition. The Comstock Publishing Company, Ithaca, New York. 401 pages.
- COOK, *. 1965a. Golden tortoise beetle (*Metritona bicolor*). Cooperative Economic Insect Report 15(37):1067.
- COOK, *. 1965b. Golden tortoise beetle (*Metritona bicolor*). Cooperative Economic Insect Report 15(37):1070.
- COOK, A. J. 1891. The poplar *Gonioctena*. Insect Life 4(1-2):67.
- COOLEY, * AND J. Walker. 1965. Northern corn rootworm (*Diabrotica longicornis*). Cooperative Economic Insect Report 15(39):1124.
- COOLEY, R. A. 1916. Fourteenth annual report of the state entomologist of Montana. University of Montana, Agricultural Experiment Station, Bulletin 112:55-76.
- COOPER, *. 1964. Three-lined potato beetle (*Lema trilineata*). Cooperative Economic Insect Report 14(21):508.
- COOPER, K. W. 1930. A list of Coleoptera found at Flushing and new to Long Island. Bulletin of the Brooklyn Entomological Society 25:21-24.

Literature Cited

- COQUILLET, D. W. 1883. Descriptions of a few leaf-eating coleopterous larvae. *The Canadian Entomologist* 15(2): 21-23.
- COQUILLET, D. W. 1892. Notes on the habits of some California Coleoptera. *Insect Life* 4:260-262.
- CORNELL, H. V. 1990. Survivorship, life history, and concealment: A comparison of leaf miners and gall formers. *The American Naturalist* 136(5):581-597.
- CORY, E. N. AND W. C. TRAVERS. 1920. The control of the strawberry leaf beetle. *The Maryland State College of Agriculture, Agricultural Experiment Station, Bulletin* 236:133-136.
- COSTA, S. D. AND R. GAUGLER. 1989. Influence of *Solanum* host plants on Colorado potato beetle (Coleoptera: Chrysomelidae) susceptibility to the entomopathogen *Beauveria bassiana*. *Environmental Entomology* 18(3): 531-536.
- COTTON, R. T. 1918. Insects attacking vegetables in Porto Rico. *The Journal of the Department of Agriculture of Porto Rico* 2:265-317.
- COULSON, J. R. 1977. Biological control of alligatorweed, 1959-1972, a review and evaluation. United States Department of Agriculture, Agricultural Research Service, Technical Bulletin 1547:1-98.
- COYLE, D. R., J. D. MCMILLIN, R. B. HALL, AND E. R. HART. 2001. Cottonwood leaf beetle (Coleoptera: Chrysomelidae) larval performance on eight *Populus* clones. *Environmental Entomology* 30(4):748-756.
- COX, M. L. 1981. Notes on the biology of *Orsodacne* Latreille with a subfamily key to the larvae of the British Chrysomelidae (Coleoptera). *Entomologist's Gazette* 32:123-135.
- COX, M. L. 1982. Larvae of the British genera of chrysomeline beetles (Coleoptera, Chrysomelidae). *Systematic Entomology* 7:297-310.
- COX, M. L. 1991. The larvae of the British *Phaedon* (Coleoptera: Chrysomelidae, Chrysomelinae). *Entomologist's Gazette* 42:267-280.
- COX, M. L. 1994. Diapause in the Chrysomelidae. Pages 469-502 in P. H. Jolivet, M. L. Cox, and E. Petitpierre (eds.). *Novel Aspects of the Biology of Chrysomelidae*. Kluwer Academic Publishers, The Netherlands.
- COX, M. L. 1995. *Psylliodes cucullata* (Illiger, 1807) (Coleoptera: Chrysomelidae, Alticinae), a species new to Britain. *Entomologist's Gazette* 46:271-276.
- COX, M. L. 1996. Parthenogenesis in the Chrysomeloidea. Pages 133-151 in P. H. A. Jolivet and M. L. Cox (eds.). *Chrysomelidae Biology, vol. 3: General Studies*. SPB Academic Publishing, Amsterdam, The Netherlands.
- CRAIGHEAD, E. M. 1923. Life-history of, and notes on, certain Chrysomelidae (Coleoptera). *Entomological News* 34: 118-121.
- CRAIGHEAD, F. C. AND W. MIDDLETON. 1930. An annotated list of the important North American forest insects. United States Department of Agriculture, Miscellaneous Publication 74:1-30.
- CRANSHAW, W. S. 1992. Pests of the West, Prevention and Control for Today's Garden and Small Farm. Fulcrum Publishing, Golden, Colorado. 275 pp.
- CRANSHAW, W. S., B. C. KONDRATIEFF, AND T. QIAN. 1990. Insects associated with quinoa, *Chenopodium quinoa*, in Colorado. *Journal of the Kansas Entomological Society* 63(1):195-199.
- CRANSHAW, W. S., D. LEATHERMAN, B. JACOBI, AND L. MANNIX. 2000. Insects and diseases of woody plants of the central Rockies. *Colorado State University Cooperative Extension Bulletin* 506A:1-283.
- CREELMAN, I. S. 1966. Highlights of the occurrence of insects and other arthropods in Canada, 1966. *Cooperative Economic Insect Report* 16(51):1150-1152.
- CRIDDLE, N. 1911. Injurious insects of 1910 at Treesbank, Manitoba. *Journal of Economic Entomology* 4:236-241.
- CRIDDLE, N. 1912. Injurious insects of 1911 at Treesbank, Manitoba. *Journal of Economic Entomology* 5:248-252.
- CRIDDLE, N. 1913. Insect pests of southern Manitoba during 1912. *Entomological Society of Ontario, Annual Report* 43:97-100.
- CRIDDLE, N. 1922. Beetles injurious to sunflowers in Manitoba. *The Canadian Entomologist* 54:97-99.
- CRIDDLE, N. 1926. A note on the synonymy of certain species of *Physonota* (Coleoptera). *The Canadian Entomologist* 58:207-208.
- CRIDDLE, N. AND R. H. HANDFORD. 1933. *Lema trilineata* Oliv. in Manitoba (Coleoptera, Chrysomelidae). *The Canadian Entomologist* 65:150-151.
- CRONIN, G., T. SCHLACHER, D. M. LODGE, AND E. L. SISK. 1999. Intraspecific variation in feeding preference and performance of *Galerucella nymphaeae* (Chrysomelidae: Coleoptera) on aquatic macrophytes. *Journal of the North American Benthological Society* 18(3):391-405.
- CRONIN, G., K. D. WISSING, AND D. M. LODGE. 1998. Comparative feeding selectivity of herbivorous insects on water lilies: aquatic vs. semi-terrestrial insects and submersed vs. floating leaves. *Freshwater Biology* 39:243-257.
- CROSBY, C. R. 1916. The red cherry leaf-beetle. *New York Department of Agriculture Bulletin* 79:1148-1149.
- CROSBY, C. R. 1929. An unexpected food plant of the striped cucumber beetle (Coleop.: Chrysomelidae). *Entomological News* 40:328.
- CROSBY, C. R. AND M. D. LEONARD. 1918. *Manual of Vegetable-garden Insects*. The Macmillan Company, New York. 391 pages.
- CROTCH, G. R. 1874. Descriptions of new species of Coleoptera from the Pacific Coast of the United States. *Transactions of the American Entomological Society* 5:73-80.
- CROWELL, H. H. 1953. Western spotted cucumber beetle (*Diabrotica undecimpunctata*). *Cooperative Economic Insect*

- Report 3(30):557.
- CROWELL, H. H. 1955. Western spotted cucumber beetle (*Diabrotica undecimpunctata*). Cooperative Economic Insect Report 5(32):771.
- CROWELL, H. H. 1956. Western spotted cucumber beetle (*Diabrotica undecimpunctata*). Cooperative Economic Insect Report 6(31):759.
- CROWELL, H. H. 1957. Western spotted cucumber beetle (*Diabrotica undecimpunctata*). Cooperative Economic Insect Report 7(11):191.
- CROWSON, R. A. 1981. The Biology of the Coleoptera. Academic Press, London. 802 pages.
- CUDA, J. P., P. E. PARKER, B. R. COON, F. E. VASQUEZ, AND J. M. HARRISON. 2002. Evaluation of exotic *Solanum* spp. (Solanales: Solanaceae) in Florida as host plants for the leaf beetles *Leptinotarsa defecta* and *L. texana* (Coleoptera: Chrysomelidae). The Florida Entomologist 85(4):599-610.
- CULBERTSON, G. 1914. A new enemy of the black locust. Proceedings of the Indiana Academy of Sciences 26:185-186.
- CURRIE, G. A. AND S. GARTHSIDE. 1932. The possibility of the entomological control of St. John's wort in Australia – Progress report. Commonwealth of Australia, Council for Scientific and Industrial Research, Pamphlet 29: 1-28.
- CUSHMAN, R. A. 1916. The cherry leaf-beetle, a periodically important enemy of cherries. United States Department of Agriculture Bulletin 352:1-26.
- CUTHBERT, F. P. 1953. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 3(51):849.
- CUTHBERT, F. P. AND B. W. DAVIS. 1970. Resistance in sweetpotatoes to damage by soil insects. Journal of Economic Entomology 63(2):360-363.
- CUTHBERT, F. P. AND B. W. DAVIS. 1971. Factors associated with insect resistance in sweetpotatoes. Journal of Economic Entomology 64(3):713-717.
- CUTHBERT, F. P. AND * DEEN. 1953. Banded cucumber beetle (*Diabrotica balteata*). Cooperative Economic Insect Report 3(29):537.
- CUTHBERT, F. P. AND A. JONES. 1972. Resistance in sweetpotatoes to Coleoptera increased by recurrent selection. Journal of Economic Entomology 65(6):1655-1658.
- CUTHBERT, F. P. AND W. J. REID. 1965. Four little-known pests of sweetpotato roots. Journal of Economic Entomology 58(3):581-583.
- DACCORDI, M. AND N. LAVARINI. 1993 (1990). Le specie Italiane del genere *Phaedon* (Coleoptera, Chrysomelidae). Bollettino del Museo Civico de Storia Naturale – Verona 17:481-512.
- DACCORDI, M. AND L. LESAGE. 1999. Revision of the genus *Labidomera* Dejean with a description of two new species (Coleoptera: Chrysomelidae: Chrysomelinae). Pages 437-461 in M. L. Cox (ed.). Advances in Chrysomelidae Biology 1. Backhuys Publishers, Leiden, The Netherlands.
- DAHL, R. G. 1941. Two new southwestern Chrysomelidae. Pomona College Journal of Entomology and Zoology 33(2): 29-31.
- DAHMS, R. G. 1968. Insect pests of barley and their control. United States Department of Agriculture, Agricultural Research Service, Agriculture Handbook 338:43-44.
- DAILEY, P. J., R. C. GRAVES, AND J. M. KINGSOLVER. 1978. Survey of Coleoptera collected on the common milkweed, *Asclepias syriaca*, at one site in Ohio. The Coleopterists Bulletin 32(3):223-229.
- DALEN, R. S., R. A. FLETCHER, AND F. A. WINTER. 1986. Rabbitbrush (*Chrysothamnus nauseosus* ssp. *consimilis*) mortality associated with defoliation by a leaf-feeding beetle, *Trirhabda nitidicollis*. United States Department of Agriculture, Forest Service, Intermountain Research Station, General Technical Report INT-200:199-204.
- DAMMAN, H. AND N. CAPPUCINO. 1991. Two forms of egg defence in a chrysomelid beetle: egg clumping and excrement cover. Ecological Entomology 16:163-167.
- DANIELS, L. B. 1937. Controlling Colorado potato pests. Colorado Experiment Station Bulletin 437:1-35.
- DANIELS, L. B. 1963. Colorado potato beetle (*Leptinotarsa decemlineata*). Cooperative Economic Insect Report 3(33): 609.
- DANIELS, L. B. AND T. O. THATCHER. 1965. A flea beetle (*Phyllotreta lewisii*). Cooperative Economic Insect Report 15(26):681.
- DAVIAULT, L. 1941. La chrysomèle du saule, *Calligrapha multipunctata* var. *bigsbiana* Kby. Le Naturaliste Canadien 68(3):57-81, 89-112.
- DAVIDSON, *. 1958. Flea beetles. Cooperative Economic Insect Report 8(32):693.
- DAVIDSON, R. H. 1931. The alimentary canal of *Crioceris* [sic] *asparagi* Linn. The Ohio Journal of Science 31(5): 396-405.
- DAVIDSON, R. H. AND W. F. LYON. 1987. Insect Pests of Farm, Garden, and Orchard. Eighth Edition. John Wiley & Sons, New York. 640 pages.
- DAVIS, A. C. 1929. *Diabrotica balteata* again. The Pan-Pacific Entomologist 5(3):116.
- DAVIS, A. C. 1931. *Diabrotica balteata* Lec. Journal of Economic Entomology 24:560.
- DAVIS, C. C. 1965. A study of the hatching process in aquatic invertebrates. XV. *Donacia palmata* Oliv. (Coleoptera, Chrysomelidae) and *Paraponyx maculata* (Clemens) (Lepidoptera, Pyralidae, Nymphulinae). Internationale Revue der gesamten Hydrobiologie 50(1):139-145.

Literature Cited

- DAVIS, C. J. 1970. Hawaii insect report, beneficial insects. Cooperative Economic Insect Report 20(44):750.
- DAVIS, E. W. AND B. J. LANDIS. 1947. Overwintering of potato flea beetles in the Yakima Valley. Journal of Economic Entomology 40(6):821-824.
- DAVIS, G. T. 1954. Summary of insect conditions – 1954, Texas. Cooperative Economic Insect Report 4(52):1113-1120.
- DAVIS, J. J. 1907. Life-history and habits of *Galeruca pomonae* Scopoli, in Illinois. Entomological News 18(7):269-275.
- DAVIS, J. J. 1954. Summary of insect conditions – 1954, Indiana. Cooperative Economic Insect Report 4(47):1032-1037.
- DAVIS, S. H. 1942. Locust leaf-miner on pagoda-tree. Morris Arboretum Bulletin 4(1):10.
- DAVIS, W. T. 1916. [Untitled]. Journal of the New York Entomological Society 24:165-166.
- DAVIS, W. T. 1920. Notes on beetles of the genera *Melasoma* and *Gonioctena*. Bulletin of the Brooklyn Entomological Society 15:145-146.
- DAWSON, *. 1961. Striped cucumber beetle (*Acalymma vittata*). Cooperative Economic Insect Report 11(39):912.
- DAWSON, *, P. P. BURBUTIS, AND A. MASON. 1961. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 11(39):912.
- DEAN, G. A. 1915. Radishes seriously injured by flea beetles. Journal of Economic Entomology 8(4):429.
- DEAN, G. A. 1946. The elm calligrapha (*Calligrapha scalaris* Lec.). Kansas Agricultural Experiment Station Circular 234:1-7.
- DEARBORN, R. G. AND C. P. DONAHUE. 1993. The forest insect survey of Maine, an annotated list of insects collected and recorded by the Maine Forest Service. Order Coleoptera, beetles. Maine Forest Service, Insect and Disease Division, Technical Report 32:1-102.
- DÉFAGO, G., H. U. AMMON, L. CAGÁN, B. DRAEGER, M. P. GREAVES, D. GUNTLI, D. HOEKE, L. KLIMES, J. LAWRIE, Y. MOËNNE-LOCCOZ, B. NICOLET, H. A. PFIRTER, R. TABACCHI, AND P. TÓTH. 2001. Towards the biocontrol of bindweeds with a mycoherbicide. BioControl 46:157-173.
- DEITZ, L. L., J. W. VAN DUYN, J. R. BRADLEY, R. L. RABB, W. M. BROOKS, AND R. E. STINNER. 1976. A guide to the identification and biology of soybean arthropods in North Carolina. North Carolina Agricultural Experiment Station, Technical Bulletin 238:i-vi, 1-264.
- DEKLE, G. W. 1957. A leaf beetle feeding on the stems of lychee. Proceedings of the Florida State Horticultural Society 60:331-333.
- DEKLE, G. W., L. C. KUITERT, AND * HABECK. 1964. Southern corn rootworm (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 14(17):369.
- DEL BENE, G. AND S. LANDI. 1993. Osservazioni su *Pyrrhalta viburni* (Payk.) (Col. Chrysomelidae) in Toscana. Redia 76(2):403-415.
- DEMAREE, J. B. AND G. A. RUNNER. 1942. Control of grape diseases and insects in eastern United States. United States Department of Agriculture, Farmers' Bulletin 1893:1-28.
- DENMARK, H. A. 1955. Summary of insect conditions – 1954, Florida. Cooperative Economic Insect Report 5(14):303-308.
- DENMARK, H. A. 1956. A flea beetle (*Systema marginalis*). Cooperative Economic Insect Report 6(30):734.
- DENNEHY, T. J. AND L. G. CLARK. 1987. Biology and control of the grape rootworm, *Fidia viticida* Walsh, in central New York. Journal of Agricultural Entomology 4(2):156-166.
- DENTON, R. E. 1958. Alder flea beetle (*Altica ambiens*). Cooperative Economic Insect Report 8(43):895.
- DE QUATTRO, J. 1997. Alticine release on musk thistle. Chrysomela Newsletter 33:7.
- DESIN, *. 1962. A leaf beetle (*Anomoea laticlavata*). Cooperative Economic Insect Report 12(24):642.
- DESWARTE, D. H. AND E. U. BALSBAUGH. 1973. Biologies of *Altica subplicata* and *Disonychia alternata* (Coleoptera: Chrysomelidae), two flea beetles that feed on sandbar willow. Annals of the Entomological Society of America 66(6):1349-1353.
- DE WILDE, J. 1958. Host plant selection in the Colorado beetle larva (*Leptinotarsa decemlineata* Say) (An ethological approach to food finding in insects). Entomologia Experimentalis et Applicata 1(1):14-22.
- DE WILDE, J., R. SLOOFF, AND W. BONGERS. 1960. A comparative study of feeding and oviposition preference in the Colorado potato beetle (*Leptinotarsa decemlineata* Say). Mededelingen van de Landbouwhogeschool en de Opzoekingsstations van de Staat te Gent 25(3-4):1340-1346.
- DIATLOFF, G. 1977. Control biológico de la mala hierba *Lantana camara* por *Octotoma championi* y *Uroplata* sp. (cerc. *Bilineata*). Agronomía Costarricense 1(2):165-167.
- DICKASON, E. A. 1952. A case bearing coleopteron, *Diachus auratus* (F.). Journal of Economic Entomology 45(4):751.
- DICKERSON, E. L. AND H. B. WEISS. 1920. The insects of the evening primroses in New Jersey. Journal of the New York Entomological Society 28(1):32-74.
- DICKINSON, J. L. 1986. Prolonged mating in the milkweed leaf beetle *Labidomera clivicollis clivicollis* (Coleoptera: Chrysomelidae): a test of the "sperm-loading" hypothesis. Behavioral Ecology and Sociobiology 18(5):331-338.
- DICKINSON, J. L. 1988. Determinants of paternity in the milkweed leaf beetle. Behavioral Ecology and Sociobiology 23(1):9-19.
- DICKINSON, J. L. 1992. Egg cannibalism by larvae and adults of the milkweed leaf beetle (*Labidomera clivicollis*, Coleoptera: Chrysomelidae). Ecological Entomology 17:209-218.

- DICKINSON, J. L. 1995. Trade-offs between postcopulatory riding and mate location in the blue milkweed beetle. *Behavioral Ecology* 6(3):280-286.
- DICKINSON, J. L. 1996. The behavior and ecology of *Labidomera* Chevrolat (Chrysomelidae: Chrysomelinae). Pages 323-335 in P. H. A. Jolivet and M. L. Cox (eds.). *Chrysomelidae Biology*, Vol. 2: Ecological Studies. SPB Academic Publishing, Amsterdam, The Netherlands.
- DILLON, E. S. AND L. S. DILLON. 1961. *A Manual of Common Beetles of Eastern North America*. Row, Peterson and Company, Evanston, Illinois. 884 pages.
- DIMMOCK, A. K. 1885. The insects of *Betula* in North America. *Psyche* 4:239-243, 271-286.
- DIMOCK, M. B., S. L. LAPOINTE, AND W. M. TINGEY. 1986. *Solanum neocardenasii*: a new source of potato resistance in the Colorado potato beetle (Coleoptera: Chrysomelidae). *Journal of Economic Entomology* 79(5):1269-1275.
- DIMOCK, M. B. AND W. M. TINGEY. 1985. Resistance in *Solanum* spp. to the Colorado potato beetle: mechanisms, genetic resources and potential. Massachusetts Agricultural Experiment Station, Research Bulletin 704:79-106.
- DIMOCK, M. B. AND W. M. TINGEY. 1987. Mechanical interaction between larvae of the Colorado potato beetle and glandular trichomes of *Solanum berthaultii* Hawkes. *American Potato Journal* 64(9):507-515.
- DIMOCK, M. B. AND W. M. TINGEY. 1988. Host acceptance behaviour of Colorado potato beetle larvae influenced by potato glandular trichomes. *Physiological Entomology* 13:399-406.
- DINKINS, R. L. 1967. A leaf beetle (*Chrysomela interrupta*). Cooperative Economic Insect Report 17(16):314.
- DINKINS, R. L. 1969a. Bean leaf beetle (*Cerotoma trifurcata*). Cooperative Economic Insect Report 19(20):343.
- DINKINS, R. L. 1969b. Bean leaf beetle (*Cerotoma trifurcata*). Cooperative Economic Insect Report 19(24):425.
- DINKINS, R. L. 1969c. Flea beetles (*Phyllotreta* spp.). Cooperative Economic Insect Report 19(29):548.
- DIRKS-EDMUNDS, J. C. 1965. Habits and life history of the bronze flea beetle, *Altica tombacina* (Mannerheim) (Coleoptera—Chrysomelidae). *Northwest Science* 39(4):148-158.
- DIXON, * AND * HELMSTELLER. 1978. A leaf beetle (*Chrysolina extorris*). Cooperative Plant Pest Report 3(34):476.
- DOANE, R. W. 1897. The immature stages of *Diabrotica soror*. *Journal of the New York Entomological Society* 5:15-17.
- DOANE, R. W., E. C. VAN DYKE, W. J. CHAMBERLIN, AND H. E. BURKE. 1936. *Forest Insects, a Textbook for the Use of Students in Forest Schools, Colleges, and Universities, and for Forest Workers*. McGraw-Hill Book Company, Inc., New York. 463 pages.
- DÖBERL, M. 1994a. 11. Unterfamilie: Alticinae. Pages 92-141 in G. A. Lohse and W. H. Lucht. *Die Käfer Mitteleuropas*. 3. Supplementband.
- DÖBERL, M. 1994b. Auffällige Ausbreitung einiger Alticinen-Arten in Westeuropa (Coleoptera, Chrysomelidae, Alticinae). Pages 276-281 in *Verhandlungen des 14. Internationalen Symposiums für Entomofaunistik in Mitteleuropa, SIEEC*, in München.
- DÖBERL, M. 1995. Der heutige Alticinen-Artenbestand der Schweiz (Coleoptera, Chrysomelidae, Alticinae). *Mitteilungen der entomologischen Gesellschaft Basel (N.F.)* 45:42-96.
- DOBLER, S., D. DALOZE, AND J. M. PASTEELS. 1998. Sequestration of plant compounds in a leaf beetle's defensive secretion: cardenolides in *Chrysochus*. *Chemoecology* 8:111-118.
- DOBLER, S. AND B. D. FARRELL. 1999. Host use evolution in *Chrysochus* milkweed beetles: evidence from behaviour, population genetics and phylogeny. *Molecular Ecology* 8:1297-1307.
- DOBSON, R. M. 1956. A note on the relative abundance of flea beetles (*Phyllotreta* and *Psylliodes* Berthold) on different cruciferous crops. *The Journal of Horticultural Science* 31:291-294.
- DODGE, G. M. 1891. More damage to corn by the brassy flea-beetle. *Insect Life* 3(11-12):484.
- DODGE, K. L. AND P. W. PRICE. 1991a. Life history of *Disonycha pluriligata* (Coleoptera: Chrysomelidae) and host plant relationships with *Salix exigua* (Salicaceae). *Annals of the Entomological Society of America* 84(3):248-254.
- DODGE, K. L. AND P. W. PRICE. 1991b. Eruptive versus noneruptive species: a comparative study of host plant use by a sawfly, *Euura exiguae* (Hymenoptera: Tenthredinidae) and a leaf beetle, *Disonycha pluriligata* (Coleoptera: Chrysomelidae). *Environmental Entomology* 20(4):1129-1133.
- DODGE, K. L., P. W. PRICE, J. KETTUNEN, AND J. TAHVANAINEN. 1990. Preference and performance of the leaf beetle *Disonycha pluriligata* (Coleoptera: Chrysomelidae) in Arizona and comparisons with beetles in Finland. *Environmental Entomology* 19(4):905-910.
- DOGGER, J. R. 1954. Elongate flea beetle (*Systema elongata*). Cooperative Economic Insect Report 4(37):847.
- DOGGER, J. R. AND * BALDWIN. 1962. Flea beetles (*Systema* spp.). Cooperative Economic Insect Report 12(31):853.
- DOGGER, J. R. AND H. E. SCOTT. 1953. Elongate flea beetle (*Systema elongata*). Cooperative Economic Insect Report 3(39):698.
- DOGUET, S. 1994. Coléoptères, Chrysomelidae, Volume 2, Alticinae. *Faune de France* 80:1-694.
- DOMÍNGUEZ, Y. AND J. CARRILLO. 1976. Lista de insectos en la colección entomológica del Instituto Nacional de Investigaciones Agrícolas. Segundo suplemento. Instituto Nacional de Investigaciones Agrícolas, SAG, Folleto Misceláneo 29:1-245.
- DOMINICK, C. B. 1938. Notes on the locust leaf miner, *Chalepus dorsalis* Thunb. *Journal of Economic Entomology* 31(2):186-189.
- DOMINICK, C. B. 1939. Notes on the tobacco flea beetle, *Epitrix parvula* (F.). *Journal of Economic Entomology* 32(4):495-498.

Literature Cited

- DOMINICK, C. B. 1943. Life history of the tobacco flea beetle. Virginia Agricultural Experiment Station Bulletin 355: 1-39.
- DOMINICK, C. B. 1971. Overwintering and spring emergence of the tobacco flea beetle. Journal of Economic Entomology 64(1):88-89.
- DORSEY, C. K. AND H. L. HANSEN. 1956. Striped cucumber beetle (*Acalymma vittata*). Cooperative Economic Insect Report 6(25):583.
- DORSEY, C. K. AND J. G. LEACH. 1956. The bionomics of certain insects associated with oak wilt with particular reference to the Nitidulidae. Journal of Economic Entomology 49(2):219-230.
- DORST, H. E. 1938. Flea beetle injury to sugar beets in central Utah. Journal of Economic Entomology 31(3):455-456.
- DOUGLAS, W. A. AND J. W. INGRAM. 1942. Rice-field insects. United States Department of Agriculture, Circular 632: 1-32.
- DOUGLASS, J. R. 1929. Chrysomelidae of Kansas. Journal of the Kansas Entomological Society 2:2-15, 26-38.
- DOWDEN, P. B. 1940. Imported willow leaf beetle (*Plagioderia versicolora* Laich.). Pages 32-34 in H. I. Baldwin (ed.). Important Tree Pests of the Northeast. Massachusetts Forest and Park Association, Boston.
- DOWDY, A. C. 1966. Cereal leaf beetle (*Oulema melanopus*). Cooperative Economic Insect Report 16(18):395.
- DOWLING, * AND * PALMER. 1961. A leaf beetle (*Rhabdopterus bowditchi*). Cooperative Economic Insect Report 11(10):145.
- DOWNIE, N. M. 1957. Records of Indiana Coleoptera, I. Proceedings of the Indiana Academy of Science 66:115-124.
- DOWNIE, N. M. AND R. H. ARNETT. 1996. The Beetles of Northeastern North America, Volume II: Polyphaga: Series Bostrichiformia through Curculionoidea. The Sandhill Crane Press, Gainesville, Florida. Pages i-x, 891-1721.
- DOWNIE, N. M. AND C. E. WHITE. 1967. Records of Indiana Coleoptera, III. Proceedings of the Indiana Academy of Science 76:308-316.
- DOZIER, H. L. 1918. An annotated list of Gainesville, Florida, Coleoptera. Entomological News 29:295-298, 331-335, 370-374.
- DOZIER, H. L. 1920. An ecological study of hammock and piney woods insects in Florida. Annals of the Entomological Society of America 13(4):325-380.
- DOZIER, H. L. 1922. An annotated list of Mississippi Chrysomelidae. The Ohio Journal of Science 22(4):117-124.
- DRAKE, C. J. AND H. M. HARRIS. 1927 (1926). The common asparagus beetle in Iowa. Report of the Iowa State Horticultural Society for the Year 1926. Pages 226-228.
- DRAKE, C. J. AND H. M. HARRIS. 1931. The pale-striped flea beetle, a pest of young seedling onions. Journal of Economic Entomology 24(6):1132-1137.
- DRAKE, C. J. AND H. M. HARRIS. 1932. Asparagus insects in Iowa. Iowa Agricultural Experiment Station Circular 134: 1-12.
- DREES, B. M. 1977a. Cereal leaf beetle (*Oulema melanopus*). Cooperative Plant Pest Report 2(18):278.
- DREES, B. M. 1977b. A chrysomelid beetle (*Systema frontalis*). Cooperative Plant Pest Report 2(36):724.
- DREES, B. M. AND M. E. RICE. 1990. Population dynamics and seasonal occurrence of soybean insect pests in southeastern Texas. Southwestern Entomologist 15(1):49-56.
- DREISTADT, S. H. AND D. L. DAHLSTEN. 1989. Density-damage relationship and presence-absence sampling of the elm leaf beetle (Coleoptera: Chrysomelidae) in northern California. Environmental Entomology 18(5):849-853.
- DREW, *. 1960. Leaf beetle (*Chrysomela* spp.). Cooperative Economic Insect Report 10(22):444.
- DREW, * AND H. W. VANCLEAVE. 1959. A willow leaf beetle (*Chrysomela interrupta*). Cooperative Economic Insect Report 9(20):390.
- DRIGGERS, B. F. 1927. Calcium cyanide as a control for the cranberry root worm on cultivated blueberries. Journal of Economic Entomology 20(2):267-270.
- DROOZ, *. 1959. Locust leaf miner (*Chalepus dorsalis*). Cooperative Economic Insect Report 9(40):903.
- DRUMMOND, F. A., R. A. CASAGRANDE, AND E. GRODEN. 1987. Biology of *Oplomus dichrous* (Heteroptera: Pentatomidae) and its potential to control Colorado potato beetle (Coleoptera: Chrysomelidae). Environmental Entomology 16(3):633-638.
- DUCKETT, A. B. 1920. Annotated list of Halticinae. University of Maryland, Agricultural Experiment Station, Bulletin 241:111-155.
- DUCKETT, C. N. 1989. Natural history of *Pedilia* sp. A and its interactions with other herbivores of *Passiflora pittieri*. Entomography 6:381-389.
- DUDLEY, J. E., B. J. LANDIS, AND W. A. SHANDS. 1952. Control of potato insects. United States Department of Agriculture, Farmers' Bulletin 2040:1-51.
- DUGAS, A. L. 1938. The striped flea beetle. Louisiana Agricultural Experiment Station Bulletin 298:25-27.
- DUNN, P. H. AND G. CAMPOBASSO. 1993. Field test of the weevil *Hadroplonthus trimaculatus* and the flea beetle *Psylliodes chalconera* against musk thistle (*Carduus nutans*). Weed Science 41:656-663.
- DUNN, P. H. AND A. RIZZA. 1976. Bionomics of *Psylliodes chalconera*, a candidate for biological control of musk thistle. Annals of the Entomological Society of America 69(3):395-398.
- DUNN, P. H. AND A. RIZZA. 1977. Host specificity of *Psylliodes chalconera*, a candidate for biological control of musk thistle. Environmental Entomology 6(3):449-454.
- DUPORTE, E. M. 1914. The wavy striped flea-beetle (*Phyllotreta sinuata* Steph.). The Canadian Entomologist 46:433-435.

- DUPREE, M. 1965a. Flea beetles. Cooperative Economic Insect Report 15(22):543.
- DUPREE, M. 1965b. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 15(22):544.
- DUPREE, M. 1965c. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 15(23):574.
- DUPREE, M. 1965d. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 15(31):863.
- DURKIN, J. J. 1957. Summary of insect conditions – 1956, New Mexico. Cooperative Economic Insect Report 7(1):9-12.
- DURY, C. 1879. List of the Coleoptera observed in the vicinity of Cincinnati. The Journal of the Cincinnati Society of Natural History 2(3):162-178.
- DURY, C. 1902. A revised list of the Coleoptera observed near Cincinnati, Ohio, with notes on localities, bibliographical references, and description of new species. The Journal of the Cincinnati Society of Natural History 20: 107-196.
- DURY, C. 1904. Notes on Coleoptera. Entomological News 15:52-53.
- DURY, C. 1906. Ecological notes on some Coleoptera of the Cincinnati region, including seven new species. The Journal of the Cincinnati Society of Natural History 20:251-256.
- DUSSOURD, D. E. 1999. Behavioral sabotage of plant defense: Do vein cuts and trenches reduce insect exposure to exudate? Journal of Insect Behavior 12(4):501-515.
- DUSSOURD, D. E. AND R. F. DENNO. 1991. Deactivation of plant defense: correspondence between insect behavior and secretory canal architecture. Ecology 72(4):1383-1396.
- DUSSOURD, D. E. AND T. EISNER. 1987. Vein-cutting behavior: insect counterploit to the latex defense of plants. Science 237:898-901.
- DUSTAN, A. G. 1932. Vegetable insects and their control. Dominion of Canada, Department of Agriculture, Bulletin (New Series) 161:1-74.
- DUSTAN, A. G. 1936. Insects attacking the potato. Dominion of Canada, Department of Agriculture, Publication 505:1-18.
- DYAR, H. G. 1902. [untitled]. Proceedings of the Entomological Society of Washington 5(2):137.
- EATON, A. T., R. L. RABB, AND J. W. VAN DUYN. 1980. Oviposition preference of the grape colaspis, *Colaspis brunnea* (Fab.) (Coleoptera: Chrysomelidae) in North Carolina. Journal of the New York Entomological Society 88(1):45.
- EBELING, W. 1939. The grape bud beetle, *Glyptoscelis squamulata* Crotch. Bulletin of the Department of Agriculture, State of California 28:459-465.
- EBELING, W. 1959. Subtropical Fruit Pests. University of California, Division of Agricultural Sciences. 436 pages.
- EBEN, A. 1999. Host plant breadth and importance of cucurbitacins for the larvae of diabroticites (Galerucinae: Luperini). Pages 361-374 in M. L. Cox (ed.). Advances in Chrysomelidae Biology 1. Backhuys Publishers, Leiden, The Netherlands.
- EBEN, A. 2000. New host plant record for *Amphelasma cavum* Barber (Chrysomelidae: Galerucinae: Luperini). The Coleopterists Bulletin 54(3):408.
- EBEN, A. AND M. E. BARBERCHECK. 1996. Field observations on host plant associations enemies of diabroticite beetles (Chrysomelidae: Luperini) in Veracruz, Mexico. Acta Zoológica Mexicana (n. s.):67:47-65.
- EBEN, A. AND M. E. BARBERCHECK. 1997. Host plant and substrate effects on mortality of southern corn rootworm from entomopathogenic nematodes. Biological Control 8:89-96.
- EBEN, A., M. E. BARBERCHECK, AND M. ALUJA. 1997a. Mexican diabroticite beetles: I. Laboratory test on host breadth of *Acalymma* and *Diabrotica* spp. Entomologia Experimentalis et Applicata 82:53-62.
- EBEN, A., M. E. BARBERCHECK, AND M. ALUJA. 1997b. Mexican diabroticite beetles: II. Test for preference of cucurbit hosts by *Acalymma* and *Diabrotica* spp. Entomologia Experimentalis et Applicata 82:63-72.
- EBEN, A. AND A. ESPINOSA DE LOS MONTEROS. 2003. Evolution of host plant breadth in Diabroticites (Coleoptera: Chrysomelidae). Pages 175-182 in D. G. Furth (ed.). Special Topics in Leaf Beetle Biology, Proceedings of the Fifth International Symposium on the Chrysomelidae, 25-27 August 2000, Iguassu Falls, Brazil, XXI International Congress of Entomology. Pensoft Series Faunistica No. 29. Pensoft Publishers, Sofia, Bulgaria.
- ECKBERG, T. B. AND W. S. CRANSHAW. 1994. Larval biology and control of the rabbitbrush beetle, *Trirhabda nitidicollis* LeConte (Coleoptera: Chrysomelidae). Southwestern Entomologist 19(3):249-256.
- EDDY, C. O. AND W. C. NETTLES. 1930. The bean leaf beetle. South Carolina Agricultural Experiment Station Bulletin 265:1-25.
- EDELSON, J. V. 1986. Intra- and interplant distribution of insect pests of cantaloupe. Environmental Entomology 15(4): 963-966.
- EDELSON, J. V. AND L. L. HYPHE. 1980. Insects associated with injury to deciduous tree seedlings growing in forest tree nurseries in Alabama. Journal of Economic Entomology 73(5):698-701.
- EDWARDS, J. G. 1949. Coleoptera or Beetles East of the Great Plains. Edwards Brothers, Ann Arbor, Michigan. 181 pages.
- EDWARDS, J. G. 1953. Species of the genus *Syneta* of the world (Coleoptera: Chrysomeloidea). The Wasmann Journal of Biology 11(1):23-82.
- EDWARDS, J. G. 1954. The type of *Syneta simplex subalpina* Edwards. The Wasmann Journal of Biology 12(1):41-42.
- EDWARDS, J. G. 1981. *Timarcha* abundant near Ft. Bragg, California. Chrysomela 5:3.
- EHRHORN, E. M. 1936. *Lema nigrovittata* Guerin. Proceedings of the Hawaiian Entomological Society 9(2):140.
- EICKWORT, K. R. 1977. Population dynamics of a relatively rare species of milkweed beetle (*Labidomera*). Ecology 58(3):527-538.

Literature Cited

- EISNER, T. 1972. Chemical ecology: on arthropods and how they live as chemists. *Verhandlungsbericht der Deutschen Zoologischen Gesellschaft* 65:123-137.
- EISNER, T. AND D. J. ANESHANSLEY. 2000. Defense by foot adhesion in a beetle (*Hemisphaerota cyanea*). *Proceedings of the National Academy of Sciences of the United States of America* 97(12):6568-6573.
- EISNER, T. AND M. EISNER. 2000. Defensive use of a fecal thatch by a beetle larva (*Hemisphaerota cyanea*). *Proceedings of the National Academy of Sciences of the United States of America* 97(6):2632-2636.
- EISNER, T., E. VAN TASSELL, AND J. E. CARREL. 1967. Defensive use of a "fecal shield" by a beetle larva. *Science* 158: 1471-1473.
- ELLIS, C. R. AND E. J. LEROUX. 1964. *Chlamisus cribripennis* (Lec.) (Coleoptera: Chrysomelidae), a new pest of blueberries in Nova Scotia. *The Canadian Entomologist* 96:809-810.
- ELMORE, J. C. AND R. E. CAMPBELL. 1936. Attraction of cucumber beetles to the buffalo gourd. *Journal of Economic Entomology* 29(5):830-833.
- ELSEY, K. D. AND J. M. PITTS. 1976. Parasitism of the tobacco flea beetle by a sphaerulariid nematode *Howardula* sp. *Environmental Entomology* 5(4):707-711.
- ELSON, *. 1966a. A spotted cucumber beetle (*Diabrotica undecimpunctata tenella*). *Cooperative Economic Insect Report* 16(17):359.
- ELSON, *. 1966b. Small grains, a spotted cucumber beetle (*Diabrotica undecimpunctata tenella*). *Cooperative Economic Insect Report* 16(48):1101.
- ELSON, *. 1966c. Forage legumes, a spotted cucumber beetle (*Diabrotica undecimpunctata tenella*). *Cooperative Economic Insect Report* 16(48):1101.
- ELSON, *. 1967. A spotted cucumber beetle (*Diabrotica undecimpunctata tenella*). *Cooperative Economic Insect Report* 17(12):199.
- ENGLISH, L. L. 1968. Illinois trees and shrubs: their insect enemies. *Illinois Natural History Survey, Circular* 47(fourth printing):1-92.
- ENGLISH, L. L. AND G. F. TURNIPSEED. 1940. Insect pests of azaleas and camellias and their control. *Alabama Agricultural Experiment Station Circular* 84:1-18.
- EPHRAIM, J. P. AND E. B. RADCLIFFE. 1968. Flea beetle resistance in wild *Solanum* species. *Proceedings of the North Central Branch, Entomological Society of America* 23(2):148-152.
- ERBER, D. 1988. Biology of Camptosomata Clytrinae – Cryptocephalinae – Chlamisinae – Lamprosomatinae. Pages 513-552 in P. Jolivet, E. Petitpierre, and T. H. Hsiao (eds.). *Biology of Chrysomelidae*. Kluwer Academic Publishers, The Netherlands.
- ESSIG, E. O. 1913. Injurious and beneficial insects of California. *California State Commission of Horticulture, The Monthly Bulletin* 2 (1-2):i-xxxi, 1-367.
- ESSIG, E. O. 1915a. The western 12-spotted cucumber beetle. *The University of California Journal of Agriculture* 3:12-15.
- ESSIG, E. O. 1915b. *Injurious and Beneficial Insects of California (Second Edition)*. Supplement, *The Monthly Bulletin, California State Commission of Horticulture*. 541 pages.
- ESSIG, E. O. 1928. *Diabrotica balteata* Lec. *The Pan-Pacific Entomologist* 5(2):66.
- ESSIG, E. O. 1958. *Insects and Mites of Western North America*. The Macmillan Company, New York. 1050 pages.
- ESSIG, E. O. AND W. M. HOSKINS. 1944. Insects and other pests attacking agricultural crops. *California Agricultural Extension Service, Circular* 87(revised):1-197.
- EUBANKS, *. 1967. Flea beetles. *Cooperative Economic Insect Report* 17(17):344.
- EVANS, *. 1967. A flea beetle (*Phyllotreta cruciferae*). *Cooperative Economic Insect Report* 17(24):513.
- EVENDEN, J. C. 1953. Alder flea beetle (*Altica ambiens*). *Cooperative Economic Insect Report* 3(20):355.
- EVERLY, R. T. 1938. Spiders and insects found associated with sweet corn with notes on the food and habits of some species. I. Arachnida and Coleoptera. *The Ohio Journal of Science* 38(3):136-148.
- EVERLY, R. T. 1940. Spiders and insects found associated with sweet corn with notes on the food and habits of some species. V. Homoptera and summary. *The Ohio Journal of Science* 40(3):143-146.
- EVERLY, R. T. 1957. Bean leaf beetle (*Cerotoma trifurcata*). *Cooperative Economic Insect Report* 7(21):398.
- EVERY, R. W. 1952. Snowy tree cricket (*Oecanthus niveus*) and western spotted cucumber beetle (*Diabrotica undecimpunctata*) causing losses up to 10-12 percent on prunes in Yamhill County, Oregon. *Cooperative Economic Insect Report* 2(24):331.
- EVERY, R. W. 1958. Waterlily leaf beetle (*Galerucella nymphaeae*). *Cooperative Economic Insect Report* 8(40):849.
- EVERY, R. W. 1959. Western spotted cucumber beetle (*Diabrotica undecimpunctata*). *Cooperative Economic Insect Report* 9(37):846.
- EVERY, R. W. AND H. E. MORRISON. 1955. Western spotted cucumber beetle (*Diabrotica undecimpunctata*). *Cooperative Economic Insect Report* 5(40):945.
- FABRICIUS, J. C. 1792. *Entomologiae Systematicae*, vol. 1. Hafniae. 330 + 538 pages.
- FABRICIUS, J. C. 1801. *Systema Eleutheratorum*, vol. 1. Kiliae. 506 pages.
- FAETH, S. H., S. MOPPER, AND D. SIMBERLOFF. 1981. Abundances and diversity of leaf-mining insects on three oak host species: effects of host-plant phenology and nitrogen content of leaves. *Oikos* 37:238-251.
- FAETH, S. H. AND D. SIMBERLOFF. 1981. Experimental isolation of oak host plants: effects on mortality, survivorship, and abundances of leaf-mining insects. *Ecology* 62(3):625-635.

- FALL, H. C. 1901. List of the Coleoptera of southern California with notes on habits and distribution and descriptions of new species. Occasional Papers of the California Academy of Sciences 8:1-282.
- FALL, H. C. 1907. New Coleoptera from the Southwest – III. The Canadian Entomologist 39:235-243.
- FALL, H. C. 1910. Miscellaneous notes and descriptions of North American Coleoptera. Transactions of the Entomological Society of America 36(2):89-197.
- FALL, H. C. 1915. A revision of the North American species of *Pachybrachis*. Transactions of the American Entomological Society 41:291-486.
- FALL, H. C. 1920. On certain species of *Haltica*, old and new. Psyche 27(5):101-111.
- FALL, H. C. 1924. The blueberry leaf-beetle and some of its relatives. Part one. Systematic. The New England species of *Galerucella*. Maine Agricultural Experiment Station Bulletin 319:81-91.
- FALL, H. C. 1926. A list of the Coleoptera taken in Alaska and adjacent parts of the Yukon Territory in the summer of 1924. The Pan-Pacific Entomologist 2(3):127-154, 191-208.
- FALL, H. C. 1927. Expedition of the California Academy of Sciences to the Gulf of California in 1921, the Chrysomelidae (Coleoptera). Proceedings of the California Academy of Sciences, Fourth Series 16(13):381-395.
- FALL, H. C. 1933. New Coleoptera XVI. The Canadian Entomologist 65:229-234.
- FALL, H. C. AND D. A. COCKERELL. 1907. The Coleoptera of New Mexico. Transactions of the American Entomological Society 33:145-272.
- FANG, Y. AND E. R. HART. 2000. Effect of cottonwood leaf beetle (Coleoptera: Chrysomelidae) larval population levels on *Populus* terminal damage. Environmental Entomology 29(1):43-48.
- FARRELL, B. D. 1985. A Biosystematic and Evolutionary Study of *Phyllobrotica* (Coleoptera: Chrysomelidae). M. S. Thesis. University of Maryland, College Park, Maryland. 94 pages.
- FARRELL, B. D. AND C. MITTER. 1990. Phylogenesis of insect/plant interactions: have *Phyllobrotica* leaf beetles (Chrysomelidae) and the Lamiales diversified in parallel? Evolution 44(6):1389-1403.
- FARRELL, B. D. AND C. MITTER. 1993. Phylogenetic determinants of insect/plant community diversity. Pages 253-266 in R. E. Ricklefs and D. Schluter (eds.). Species Diversity in Ecological Communities, Historical and Geographical Perspectives. The University of Chicago Press, Chicago, Illinois.
- FARRELL, B. D., C. MITTER, AND D. J. FUTUYMA. 1992. Diversification at the insect-plant interface, insights from phylogenetics. BioScience 42(1):34-42.
- FARRIER, M. H. 1955. A flea beetle (*Disonycha glabrata*). Cooperative Economic Insect Report 5(35):851.
- FARRIER, M. H. 1956a. Summary of insect conditions – 1955, North Carolina. Cooperative Economic Insect Report 6(6):100-105.
- FARRIER, M. H. 1956b. Colorado potato beetle (*Leptinotarsa decemlineata*). Cooperative Economic Insect Report 6(21):459.
- FARRIER, M. H. 1957. Summary of insect conditions – 1956, North Carolina. Cooperative Economic Insect Report 7(10):182-186.
- FARRIER, M. H. 1959. Summary of insect conditions – 1958, North Carolina. Cooperative Economic Insect Report 9(11):173-177.
- FARRIER, M. H. AND * WEISMAN. 1958. Flea beetles. Cooperative Economic Insect Report 8(20):388.
- FAVINGER, *. 1964. Cereal leaf beetle (*Oulema melanopus*). Cooperative Economic Insect Report 14(33):933.
- FAVINGER, * AND M. C. WILSON. 1963. Cereal leaf beetle (*Oulema melanopa*). Cooperative Economic Insect Report 13(18):456.
- FEENY, P, K. L. PAAUWE, AND N. J. DEMONG. 1970. Flea beetles and mustard oils: host plant specificity of *Phyllotreta cruciferae* and *P. striolata* adults (Coleoptera: Chrysomelidae). Annals of the Entomological Society of America 63(3):832-841.
- FELDMAN, R. S. 2001. Taxonomic and size structure of phytophilous macroinvertebrate communities in *Vallisneria* and *Trapa* beds of the Hudson River, New York. Hydrobiologia 452:233-245.
- FELT, E. P. 1898a. Elm leaf beetle in New York State. Bulletin of the New York State Museum 5(20):1-35.
- FELT, E. P. 1898b. 14th report on the injurious and other insects of the State of New York. Bulletin of the New York State Museum 5(23):231-242.
- FELT, E. P. 1900. Illustrated descriptive catalogue of some of the more important injurious and beneficial insects of New York State. Bulletin of the New York State Museum 8(37):1-52.
- FELT, E. P. 1901. 16th report of the state entomologist on injurious and other insects of the State of New York. Bulletin of the New York State Museum 7(36):949-1063.
- FELT, E. P. 1902a. 17th report of the state entomologist on injurious and other insects of the State of New York. New York State Museum Bulletin 53:699-925.
- FELT, E. P. 1902b. Elm leaf beetle in New York State. New York State Museum Bulletin 57:1-43.
- FELT, E. P. 1902c. Grapevine root worm. New York State Museum Bulletin 59:49-84.
- FELT, E. P. 1903. Grapevine root worm. New York State Museum Bulletin 72:1-55.
- FELT, E. P. 1905. Insects affecting park and woodland trees. New York State Museum Memoir 8(1):1-459.
- FELT, E. P. 1907 (1905). Insects affecting park and woodland trees. New York State Museum Memoir 8(2):331-877.
- FELT, E. P. 1909. 24th report of the State Entomologist on injurious and other insects of the State of New York, 1908. University of the State of New York, Education Department Bulletin 455:5-70.

Literature Cited

- FELT, E. P. 1911. Elm leaf beetle (*Galerucella luteola* Mull.). Journal of Economic Entomology 4:545.
- FELT, E. P. 1912a. Elm leaf beetle and white-marked tussock moth. New York State Museum Bulletin 156:5-35.
- FELT, E. P. 1912b. Locust leaf miner (*Chalepus dorsalis* Thunb.). Journal of Economic Entomology 5:411.
- FELT, E. P. 1916. 31st report of the state entomologist. New York State Museum Bulletin 186:7-215.
- FELT, E. P. 1930. Manual of Tree and Shrub Insects, a General Account of the More Important or Common Insects Attacking Shade and Forest Trees and Shrubs and Woody Ornamentals. The MacMillan Company, New York. 382 pages.
- FELT, E. P. 1933. Observations on shade tree insects. Journal of Economic Entomology 26:45-51.
- FERGUSON, J. E., E. R. METCALF, R. L. METCALF, AND A. M. RHODES. 1983. Influence of cucurbitacin content in cotyledons of Cucurbitaceae cultivars upon feeding behavior of Diabroticina beetles (Coleoptera: Chrysomelidae). Journal of Economic Entomology 76(1):47-51.
- FERNALD, H. T. 1901. The imported elm leaf-beetle. Massachusetts Agricultural Experiment Station Bulletin 76:1-8.
- FERRIS, G. F. AND E. W. NISSEN. 1927. The larva of a species of the Cassididae (Coleoptera). The Pan-Pacific Entomologist 3(4):169-172.
- FERRO, D. N. 1985. Pest status and control strategies of the Colorado potato beetle. Massachusetts Agricultural Experiment Station, Research Bulletin 704:1-8.
- FIELDS, P. G., J. T. ARNASON, AND B. J. R. PHILOGÈNE. 1988. Distribution of *Chrysolina* spp. (Coleoptera: Chrysomelidae) in eastern Ontario, 18 years after their initial release. The Canadian Entomologist 120:937-938.
- FINK, D. E. 1913. The twelve-spotted asparagus beetle (*Crioceris duodecimpunctata* L.). Cornell University, Agricultural Experiment Station, Bulletin 331:422-435.
- FINK, D. E. 1916. Injury to peanuts by the twelve-spotted cucumber beetle (*Diabrotica 12-punctata* Ol.). Journal of Economic Entomology 9:366-368.
- FISHER, D. F. AND E. J. NEWCOMER. 1919. Controlling important fungous and insect enemies of the pear in the humid sections of the Pacific Northwest. United States Department of Agriculture, Farmers' Bulletin 1056:1-34.
- FISHER, J. R., T. F. BRANSON, AND G. R. SUTTER. 1984. Use of common squash cultivars, *Cucurbita* spp., for mass collection of corn rootworm beetles, *Diabrotica* spp. (Coleoptera: Chrysomelidae). Journal of the Kansas Entomological Society 57(3):409-412.
- FISSER, H. G. AND R. J. LAVIGNE. 1961. A leaf feeding beetle found on threetip sagebrush. Journal of Range Management 14(5):278-279.
- FITCH, A. 1859a (1858). Fifth report on the noxious and other insects of the State of New York. Transactions of the New York State Agricultural Society 18:781-854.
- FITCH, A. 1859b. Beetles infesting grape vines. The Country Gentleman 14:171.
- FITCH, A. 1864 (1863). Ninth report on the noxious and other insects of the State of New York. Transactions of the New York State Agricultural Society 23:788-824.
- FITCH, A. 1865 (1864). Tenth report on the noxious and other insects of the State of New York. Transactions of the New York State Agricultural Society 24:433-461.
- FITZSIMMONS, *. 1962. A leaf beetle (*Luperus concavus*). Cooperative Economic Insect Report 12(28):772.
- FLAKE, H. W., C. J. GERMAIN, M. J. WEISS, AND R. C. LOOMIS. 1972. Southwestern states (R-3). Pages 38-44 in Forest Insect and Disease Conditions in the United States, 1971. Forest Service, United States Department of Agriculture.
- FLANDERS, K. L., S. ARNONE, AND E. B. RADCLIFFE. 1998. The potato: genetic resources and insect resistance. Pages 207-239 in S. L. Clement and S. S. Quisenberry (eds.). Global Plant Genetic Resources for Insect-resistant Crops. CRC Press, Boca Raton, Florida.
- FLANDERS, K. L., J. G. HAWKES, E. B. RADCLIFFE, AND F. I. LAUER. 1992. Insect resistance in potatoes: sources, evolutionary relationships, morphological and chemical defenses, and ecogeographical associations. Euphytica 61:83-111.
- FLANDERS, K. L. AND E. B. RADCLIFFE. 1992. Host plant resistance in *Solanum* germplasm. An appraisal of resistance to Colorado potato beetle, potato leafhopper and potato flea beetle. Minnesota Agricultural Experiment Station, Station Bulletin 599-1992:1-22.
- FLANDERS, K. L., E. B. RADCLIFFE, AND J. G. HAWKES. 1997. Geographic distribution of insect resistance in potatoes. Euphytica 93:201-221.
- FLASKERD, R., H. GRAEBER, T. T. AAMODT, W. P. TRAMPE, AND J. R. SANDVE. 1958. Summary of insect conditions - 1957, Minnesota. Cooperative Economic Insect Report 8(7):116-120.
- FLETCHER, J. 1886. [untitled]. Entomological Society of Ontario, Annual Report 16:10-11.
- FLOAT, K. D., M. J. C. KEARSLEY, AND T. G. WHITHAM. 1993. Elevated herbivory in plant hybrid zones: *Chrysomela confluenta*, *Populus* and phenological sinks. Ecology 74(7):2056-2065.
- FLOAT, K. D. AND T. G. WHITMAN. 1994. Aphid-ant interaction reduces chrysomelid herbivory in a cottonwood hybrid zone. Oecologia 97:215-221.
- FLOCK, *. 1963. Tobacco flea beetle (*Epitrix hirtipennis*). Cooperative Economic Insect Report 13(35):1020.
- FLOWERS, R. W. 1990. New records of Chrysomelidae (Coleoptera) from Florida. The Coleopterists Bulletin 44(1):65-66.
- FLOWERS, R. W. 1991. Aggregations of Cassidinae (Chrysomelidae) in Santa Rosa and Guanacaste National Parks, Costa Rica. Biotropica 23(3):308-310.

- FLOWERS, R. W. 1996. La subfamilia Eumolpinae (Coleoptera: Chrysomelidae) en América Central. *Revista de Biología Tropical, Publicación Especial* 2:1-59.
- FLOWERS, R. W., D. G. FURTH, AND M. C. THOMAS. 1994. Notes on the distribution and biology of some Florida leaf beetles (Coleoptera: Chrysomelidae). *The Coleopterists Bulletin* 48(1):79-89.
- FLOWERS, R. W. AND D. H. JANZEN. 1997. Feeding records of Costa Rican leaf beetles (Coleoptera: Chrysomelidae). *The Florida Entomologist* 80(3):334-366.
- FLOWERS, R. W. AND J. A. WILCOX. 1968. European potato flea beetle (*Psylliodes affinis* (Paykull)). *Cooperative Economic Insect Report* 18(41):960.
- FLYNN, J. L. AND T. E. REAGAN. 1984. Pollination interference in seed corn from silk feeding by *Colaspis louisianae* Blake (Coleoptera: Chrysomelidae). *Journal of Economic Entomology* 77(5):1185-1188.
- FOLLETT, P. A., W. W. CANELO, AND G. K. RODERICK. 1996. Local dispersal of overwintered Colorado potato beetle (Chrysomelidae: Coleoptera) determined by mark and recapture. *Environmental Entomology* 25(6):1304-1311.
- FOLSOM, D., G. W. SIMPSON, AND R. BONDE. 1949. Maine potato diseases, insects, and injuries. *The Maine Agricultural Experiment Station Bulletin* 469:1-49.
- FOLSOM, J. W. 1936a. Notes on little-known cotton insects. *Journal of Economic Entomology* 29(2):282-285.
- FOLSOM, J. W. 1936b. Additional notes on little-known cotton insects. *Journal of Economic Entomology* 29(6):1066-1068.
- FOOTE, B. A. 1960. A Klamathweed beetle (*Chrysolina gemellata*). *Cooperative Economic Insect Report* 10(27):603.
- FORBES, S. A. 1883a. The corn root-worm (*Diabrotica longicornis*, Say), Order Coleoptera, Family Chrysomelidae. Report of the State Entomologist on the Noxious and Beneficial Insects of the State of Illinois 12:10-31.
- FORBES, S. A. 1883b. Miscellaneous notes. Report of the State Entomologist on the Noxious and Beneficial Insects of the State of Illinois 12:98-104.
- FORBES, S. A. 1884a. On the life-histories and immature stages of three Eumolpini. *Psyche* 4:123-130.
- FORBES, S. A. 1884b. On the life-histories and immature stages of three Eumolpini. *Corrective note. Psyche* 4:167-168.
- FORBES, S. A. 1894. A monograph of insect injuries to Indian corn. Part I. Report of the State Entomologist on the Noxious and Beneficial Insects of the State of Illinois 18:1-171.
- FORBES, S. A. 1896. Insect injuries to the seed and root of Indian corn. University of Illinois, Agricultural Experiment Station, Bulletin 44:209-296.
- FORBES, S. A. 1905. A monograph of insect injuries to Indian corn. Part II. Report of the State Entomologist on the Noxious and Beneficial Insects of the State of Illinois 23:1-273.
- FORBES, S. A. 1909. The general entomological ecology of the Indian corn plant. *The American Naturalist* 43(505):268-301.
- FORBES, S. A. AND C. A. HART. 1900. The economic entomology of the sugar beet. University of Illinois, Agricultural Experiment Station, Bulletin 60:397-536.
- FORCE, D. C. 1966a. Reactions of the three-lined potato beetle, *Lema trilineata* (Coleoptera: Chrysomelidae), to its host and certain nonhost plants. *Annals of the Entomological Society of America* 59(6):1112-1119.
- FORCE, D. C. 1966b. Reactions of the green dock beetle, *Gastrophysa cyanea* (Coleoptera: Chrysomelidae), to its host and certain nonhost plants. *Annals of the Entomological Society of America* 59(6):1119-1125.
- FORD, E. J. AND J. F. CAVEY. 1982. Biology and immature stages of the hispine beetle *Anisostena ariadne* (Coleoptera, Chrysomelidae). *The Coleopterists Bulletin* 36(2):189-192.
- FORD, E. J. AND J. F. CAVEY. 1985. Biology and larval descriptions of some Maryland Hispinae (Coleoptera: Chrysomelidae). *The Coleopterists Bulletin* 39(1):36-59.
- FORNASARI, L. 1993. Life history of the flea beetle, *Aphthona abdominalis* Duftschmid, on *Euphorbia esula* L. (leafy spurge) in Italy. *Biological Control* 3:161-175.
- FORNASARI, L. 1995a. Exploration conducted in Russia for *Euphorbia esula* L. (leafy spurge, Euphorbiaceae) and associated insects. Proceedings, ANPP-Sixteenth COLUMA Conference – International Meeting on Weed Control, Reims, France, 6-8 December 1995. Pages 427-436.
- FORNASARI, L. 1995b. Temperature effects on the embryonic development of *Aphthona abdominalis* (Coleoptera: Chrysomelidae), a natural enemy of *Euphorbia esula* (Euphorbiales: Euphorbiaceae). *Environmental Entomology* 24(3):720-723.
- FORNASARI, L. 1996. Biology and ethology of *Aphthona* spp. (Coleoptera: Chrysomelidae, Alticinae) associated with *Euphorbia* spp. (Euphorbiaceae). Pages 293-313 in P. H. A. Jolivet and M. L. Cox (eds.). *Chrysomelidae Biology*, vol. 3: General Studies. SPB Academic Publishing, Amsterdam, The Netherlands.
- FORNASARI, L. AND P. PECORA. 1995. Host specificity of *Aphthona abdominalis* Duftschmid (Coleoptera: Chrysomelidae), a biological control agent for *Euphorbia esula* L. (leafy spurge, Euphorbiaceae) in North America. *Biological Control* 5:353-360.
- FORSTER, J. A. 1771. *Novae Species Insectorum. Centuria I.* London, England. 100 pages.
- FOSTER, D. E., D. N. UECKERT, AND C. J. DELOACH. 1981. Insects associated with broom snakeweed (*Xanthocephalum sarothrae*) and threadleaf snakeweed (*Xanthocephalum microcephala*) in west Texas and eastern New Mexico. *Journal of Range Management* 34(6):446-454.
- FOUDRAS, A. C. M. E. 1860. Altisides. Pages 17-128 in E. Mulsant and J. B. Godart. Description de deux espèces nouvelles de Coléoptères, de la tribu des Hydrocanthares. *Annales de Société Linneenne de Lyon (Nouvelle Série)* 7:12-128.

Literature Cited

- FOWLER, W. W. 1912. *Phyllotreta sinuata*, Steph., &c., in Eskdale, Cumberland. Entomologists Monthly Magazine (Second Series) 13:286-287.
- FOX, C. J. S. AND G. M. STIRRETT. 1952. Annotated catalogue of insect and other invertebrate pests of tobacco in Canada. Annual Report of the Entomological Society of Ontario 83:48-54.
- FOX, P. R. 1972. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 22(35):579.
- FRANÇA, F. H., R. L. PLAISTED, R. T. ROUSH, S. VIA, AND W. M. TINGEY. 1994. Selection response of the Colorado potato beetle for adaptation to the resistant potato, *Solanum berthaultii*. Entomologia Experimentalis et Applicata 73:101-109.
- FRANKLIN, H. J. 1950. Cranberry Insects in Massachusetts, parts II-VII. Massachusetts Agricultural Experiment Station Bulletin 445:1-88.
- FREITAG, J. H. 1956. Beetle transmission, host range, and properties of squash mosaic virus. Phytopathology 46:73-81.
- FRENCH, G. H. 1882. The corn-root worm. (*Diabrotica Longicornis*, Say.). Report of the State Entomologist on the Noxious and Beneficial Insects of the State of Illinois 11:65-72.
- FRENCH, G. H. 1885. Larva of *Chrysomela clivicollis*, Kirby. The Canadian Entomologist 17(1):19.
- FRENCH, J. C. 1962. Bean leaf beetle (*Cerotoma trifurcata*). Cooperative Economic Insect Report 12(20):492.
- FRERS, A. G. 1922. Metamorfosis, biología y variaciones de una especie de crisomélido *Lema dorsalis* (Oliv.). Physis 6: 1-21.
- FRICK, K. E. 1970. *Longitarsus jacobaeae* (Coleoptera: Chrysomelidae), a flea beetle for the biological control of tansy ragwort. 1. Host plant specificity studies. Annals of the Entomological Society of America 63(1):284-296.
- FRICK, K. E. 1971. *Longitarsus jacobaeae* (Coleoptera: Chrysomelidae), a flea beetle for the biological control of tansy ragwort. II. Life history of a Swiss biotype. Annals of the Entomological Society of America 64(4):834-840.
- FRICK, K. E. AND G. R. JOHNSON. 1972. *Longitarsus jacobaeae* (Coleoptera: Chrysomelidae), a flea beetle for the biological control of tansy ragwort. 3. Comparison of the biologies of the egg stage of Swiss and Italian biotypes. Annals of the Entomological Society of America 65(2):406-410.
- FRICK, K. E. AND G. R. JOHNSON. 1973. *Longitarsus jacobaeae* (Coleoptera: Chrysomelidae), a flea beetle for the biological control of tansy ragwort. 4. Life history and adult aestivation of an Italian biotype. Annals of the Entomological Society of America 66(2):358-367.
- FRITZ, R. S. 1983a. Ant protection of a host plant's defoliator: consequence of an ant-membracid mutualism. Ecology 64(4):789-797.
- FRITZ, R. S. 1983b. Patterns of mating, oviposition, and egg production of the locust leafminer, *Odontota dorsalis* (Coleoptera: Chrysomelidae). Environmental Entomology 12(6):1841-1843.
- FRONK, W. D. 1950. Cultural and biological control of the southern corn rootworm in peanuts. Journal of Economic Entomology 43(1):22-24.
- FRONK, W. D. AND J. A. SLATER. 1956. Insect fauna of cucurbit flowers. Journal of the Kansas Entomological Society 29(4):141-145.
- FROST, C. A. 1912. Variations of *Orsodacna atra* – Coleoptera. Psyche 29(5):153-156.
- FROST, C. A. 1929. *Lema palustris* Blatchley. Psyche 36(3):215.
- FROST, C. A. 1931. *Donacia liebecki* Schaeffer. Bulletin of the Brooklyn Entomological Society 26:46.
- FROST, C. A. 1946. Notes on uncommon Coleoptera. Psyche 53(1-2):21.
- FROST, C. A. 1950. *Chalepus bicolor* Oliv. (Coleoptera). Psyche 57(3):92.
- FROST, S. W. 1924. The leaf mining habit in the Coleoptera. Part I. Annals of the Entomological Society of America 17: 457-468.
- FROST, S. W. 1942. General Entomology. McGraw-Hill Book Company, New York. 524 pages.
- FROST, S. W. 1945. Insects feeding or breeding on indigo, *Baptisia*. Journal of the New York Entomological Society 53(3):219-225.
- FROST, S. W. 1949. Flea beetles attacking Cruciferae. Journal of Economic Entomology 42(1):144-145.
- FROST, S. W. 1972. Notes on *Blepharida dorothea* Mignot (Coleoptera: Chrysomelidae). Entomological News 83:45-47.
- FROST, S. W. 1973. Hosts and eggs of *Blepharida dorothea* (Coleoptera: Chrysomelidae). The Florida Entomologist 56(2):120-122.
- FULLAWAY, D. T. AND N. L. H. KRAUSS. 1945. Common Insects of Hawaii. Tongg Publishing Company, Honolulu, Hawaii. 228 pages.
- FULLERTON, D. G. 1960. Flea beetles. Cooperative Economic Insect Report 10(22):437.
- FULLERTON, D. G. 1961a. Flea beetles. Cooperative Economic Insect Report 11(27):601.
- FULLERTON, D. G. 1961b. Striped flea beetle (*Phyllotreta striolata*). Cooperative Economic Insect Report 11(29):661.
- FULLERTON, D. G. 1961c. Striped flea beetle (*Phyllotreta striolata*). Cooperative Economic Insect Report 11(30):691.
- FULLERTON, D. G. 1961d. Striped flea beetle (*Phyllotreta striolata*). Cooperative Economic Insect Report 11(31):722.
- FULLERTON, D. G. 1962a. Striped flea beetle (*Phyllotreta striolata*). Cooperative Economic Insect Report 12(21):521.
- FULLERTON, D. G. 1962b. Striped flea beetle (*Phyllotreta striolata*). Cooperative Economic Insect Report 12(23):593.
- FULLERTON, D. G. 1962c. Striped flea beetle (*Phyllotreta striolata*). Cooperative Economic Insect Report 12(24):626.
- FULLERTON, D. G. 1962d. Striped flea beetle (*Phyllotreta striolata*). Cooperative Economic Insect Report 12(26):693.
- FULLERTON, D. G. 1962e. Striped flea beetle (*Phyllotreta striolata*). Cooperative Economic Insect Report 12(27):729.

- FULLERTON, D. G. 1962f. Flea beetles. Cooperative Economic Insect Report 12(28):762.
- FULLERTON, D. G. 1963. Flea beetles. Cooperative Economic Insect Report 13(22):580.
- FULTON, H. G., F. L. BANHAM, AND C. L. NEILSON. 1955. The tuber flea beetle in British Columbia. Canada Department of Agriculture, Science Service, Entomology Division, Publication 938:1-5.
- FUNK, D. J. 1998. Isolating a role for natural selection in speciation: host adaptation and sexual isolation in *Neochlamisus bebbianae* leaf beetles. *Evolution* 52(6):1744-1759.
- FUNK, D. J. 1999. Molecular systematics of cytochrome oxidase I and 16S from *Neochlamisus* leaf beetles and importance of sampling. *Molecular Biology and Evolution* 16(1):67-82.
- FUNK, D. J., K. E. FILCHAK, AND J. L. FEDER. 2002. Herbivorous insects: model systems for the comparative study of speciation ecology. *Genetica* 116:251-267.
- FUNK, D. J., D. J. FUTUYMA, G. ORTÍ, AND A. MEYER. 1995. A history of host associations and evolutionary diversification for *Ophraella* (Coleoptera: Chrysomelidae): new evidence from mitochondrial DNA. *Evolution* 49(5):1008-1017.
- FURNESS, M. M. 1972. A preliminary list of insects and mites that infest some important browse plants of western big game. United States Department of Agriculture, Forest Service, Research Note INT-155:1-16.
- FURNESS, M. M. AND W. F. BARR. 1975. Insects affecting important native shrubs of the northwestern United States. United States Department of Agriculture, Forest Service, General Technical Report INT-19:1-64.
- FURNESS, M. M. AND R. G. KREBILL. 1972. Insects and diseases of shrubs on western big game ranges. United States Department of Agriculture, Intermountain Forest and Range Experiment Station, General Technical Report INT-1:218-226.
- FURNESS, R. L. AND V. M. CAROLIN. 1977. Western forest insects. United States Department of Agriculture, Forest Service, Miscellaneous Publication 1339:1-654.
- FURTH, D. G. 1979a (1978). A fossil flea beetle (Coleoptera: Chrysomelidae) from Lake Huleh, Israel. *Israel Journal of Entomology* 12:41-49.
- FURTH, D. G. 1979b. Zoogeography and host plant ecology of the Alticinae of Israel, especially *Phyllotreta*; with descriptions of three new species (Coleoptera: Chrysomelidae). *Israel Journal of Zoology* 28:1-37.
- FURTH, D. G. 1980 (1979). Zoogeography and host plants of *Longitarsus* in Israel, with descriptions of six new species (Coleoptera: Chrysomelidae). *Israel Journal of Entomology* 13:79-124.
- FURTH, D. G. 1981 (1980). *Altica* of Israel (Coleoptera: Chrysomelidae: Alticinae). *Israel Journal of Entomology* 14:55-66.
- FURTH, D. G. 1982. *Blepharida* biology, as demonstrated by the sacred sumac flea beetle (*B. sacra* Weise) (Coleoptera: Chrysomelidae: Alticinae). *Spixiana*, Supplement 7:43-52.
- FURTH, D. G. 1983. Weedy food plants as reservoirs of cultivated plants. *Chrysomela* 8:3-4.
- FURTH, D. G. 1984 (1983). Alticinae of Israel: *Psylliodes* (Coleoptera: Chrysomelidae). *Israel Journal of Entomology* 17:37-58.
- FURTH, D. G. 1985. The natural history of a sumac tree, with emphasis on the entomofauna. *Transactions of the Connecticut Academy of Arts and Sciences* 46:137-234.
- FURTH, D. G. 1986 (1985). Alticinae of Israel: *Chaetocnema* (Coleoptera: Chrysomelidae). *Israel Journal of Entomology* 19:67-83.
- FURTH, D. G. 1993. The Hula Lake leaf beetles revisited. *Israel Journal of Entomology* 27:25-30.
- FURTH, D. G. 1995 (1994). A new case of parthenogenesis in beetles: *Longitarsus melanurus* (Melsheimer) (Coleoptera: Chrysomelidae). *Journal of the New York Entomological Society* 102(3):310-317.
- FURTH, D. G. 1998. New World *Blepharida* Chevrolat 1836 (Coleoptera: Chrysomelidae: Alticinae). *Memoirs of the Entomological Society of Washington* 21:1-109.
- FURTH, D. G. AND J. E. LEE. 2000. Similarity of the *Blepharida*-group genera using larval and adult characters (Coleoptera: Chrysomelidae: Alticinae). *Journal of the New York Entomological Society* 108(1-2):26-51.
- FURTH, D. G. AND D. A. YOUNG. 1988. Relationships of herbivore feeding and plant flavonoids (Coleoptera: Chrysomelidae and Anacardiaceae: *Rhus*). *Oecologia* 74:496-500.
- FUTUYMA, D. J. 1990. Observations on the taxonomy and natural history of *Ophraella* Wilcox (Coleoptera: Chrysomelidae), with a description of a new species. *Journal of the New York Entomological Society* 98(2):163-186.
- FUTUYMA, D. J. 1991a. A new species of *Ophraella* Wilcox (Coleoptera: Chrysomelidae) from the southeastern United States. *Journal of the New York Entomological Society* 99(4):643-653.
- FUTUYMA, D. J. 1991b. Evolution of host specificity in herbivorous insects: genetic, ecological, and phylogenetic aspects. Pages 431-454 in P. W. Price, T. M. Lewinsohn, G. W. Fernandes, and W. W. Benson (eds.). *Plant-Animal Interactions: Evolutionary Ecology in Tropical and Temperate Regions*. John Wiley & Sons, Inc., New York.
- FUTUYMA, D. J. 1992. Genetics and the phylogeny of insect-plant interactions. Pages 191-200 in S. B. J. Menken, J. H. Visser, and P. Harrewijn (eds.). *Proceedings of the 8th International Symposium on Insect-Plant Relationships*, Dordrecht. Kluwer Academic Publishers, The Netherlands.
- FUTUYMA, D. J. 1994. Genetic and phylogenetic aspects of host plant affiliation in *Ophraella* (Chrysomelidae: Galeucinae). Pages 249-258 in P. H. Jolivet, M. L. Cox, and E. Petitpierre (eds.). *Novel Aspects of the Biology of Chrysomelidae*. Kluwer Academic Publishers, The Netherlands.

Literature Cited

- FUTUYMA, D. J., C. HERRMANN, S. MILSTEIN, AND M. C. KEESE. 1993. Apparent transgenerational effects of host plant in the leaf beetle *Ophraella notulata* (Coleoptera: Chrysomelidae). *Oecologia* 96:365-372.
- FUTUYMA, D. J., M. C. KEESE, AND D. J. FUNK. 1995. Genetic constraints on macroevolution: the evolution of host affiliation in the leaf beetle genus *Ophraella*. *Evolution* 49(5):797-809.
- FUTUYMA, D. J., M. C. KEESE, AND S. J. SCHEFFER. 1993. Genetic constraints and the phylogeny of insect-plant associations: responses of *Ophraella communa* (Coleoptera: Chrysomelidae) to host plants of its congeners. *Evolution* 47(3):888-905.
- FUTUYMA, D. J. AND R. M. MAY. 1991. The coevolution of plant-insect and host-parasite relationships. Pages 139-166 in R. J. Berry, T. J. Crawford, and G. M. Hewitt (eds.). *Genes in Ecology*, the 33rd Symposium of the British Ecological Society, University of East Anglia. Blackwell Scientific Publications, Oxford.
- FUTUYMA, D. J. AND S. S. MCCAFFERTY. 1990. Phylogeny and the evolution of host plant associations in the leaf beetle genus *Ophraella* (Coleoptera, Chrysomelidae). *Evolution* 44(8):1885-1913.
- FUTUYMA, D. J., J. S. WALSH, T. MORTON, D. J. FUNK, AND M. C. KEESE. 1994. Genetic variation in a phylogenetic context: Responses of two specialized leaf beetles (Coleoptera: Chrysomelidae) to host plants of their congeners. *Journal of Evolutionary Biology* 7:127-146.
- FYLES, T. W. 1902. A tortoise beetle new to Quebec. *The Canadian Entomologist* 34:273-274.
- GALFORD, * AND W. F. LYON. 1964. Striped flea beetle (*Phyllotreta striolata*). *Cooperative Economic Insect Report* 14(17):366.
- GALLAWAY, H. E. 1956. Elm leaf beetle (*Galerucella xanthomelaena*). *Cooperative Economic Insect Report* 6(30):726.
- GAMBRELL, F. L. 1937. The elm leaf beetle. New York State Agricultural Experiment Station (Geneva), Circular 177:1-4.
- GANNON, A. J., C. E. BACH, AND G. K. WALKER. 1994. Feeding patterns and attachment ability of *Altica subplicata* (Coleoptera: Chrysomelidae) on sand-dune willow. *The Great Lakes Entomologist* 27(2):89-101.
- GARIN, C. F., C. JUAN, AND E. PETITPIERRE. 1999. Mitochondrial DNA phylogeny and the evolution of host-plant use in Palearctic *Chrysolina* (Coleoptera, Chrysomelidae) leaf beetles. *Journal of Molecular Evolution* 48:435-444.
- GARMAN, H. 1891a. On the life-history of *Diabrotica 12-punctata* Oliv. *Psyche* 6:28-30, 44-49.
- GARMAN, H. 1891b. The transformations and habits of *Disonycha glabrata*. *Kentucky Agricultural Experiment Station Bulletin* 5(6):143-145.
- GARMAN, H. 1892 (1889). Observations on injurious insects and fungi. *Annual Report of the Kentucky Agricultural Experiment Station of the State College of Kentucky* 2:8-51.
- GARMAN, H. 1896. Insect and fungus enemies of potatoes in Kentucky. *Kentucky Agricultural Experiment Station Bulletin* 61:14-35.
- GARMAN, H. 1907. The corn root-worms. *Kentucky Agricultural Experiment Station Bulletin* 130:42-46.
- GARMAN, H. 1916. The locust borer (*Cyrtene robiniae*) and other insect enemies of the black locust. *Kentucky Agricultural Experiment Station Bulletin* 200:99-135.
- GARMAN, H. 1921a. The striped cucumber beetle. University of Kentucky, College of Agriculture, Extension Division, Circular 108:1-6.
- GARMAN, H. 1921b. Flea beetles of tobacco and potato. University of Kentucky, College of Agriculture, Extension Division, Circular 109:1-4.
- GARMAN, H. 1926. Two important enemies of bluegrass pastures. *Kentucky Agricultural Experiment Station Bulletin* 265:29-47.
- GARNER, C. F. 1954. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). *Cooperative Economic Insect Report* 4(11):214.
- GARRISON, R. W. 1998. New agricultural pest for southern California, Australian tortoise beetle, *Trachymela sloanei*. *California Plant Pest & Disease Report* 17(1-3):5-6.
- GASSMANN, A. 1995. Europe as a source of biological control agents of exotic invasive weeds: status and implications. *Mitteilungen der schweizerischen entomologischen Gesellschaft* 68:313-322.
- GASSMANN, A. 1996. Life history and host specificity of *Aphthona venustula* Kutsch. (Col., Chrysomelidae), a candidate for the biological control of leafy spurge (*Euphorbia esula* L.) in North America. *Journal of Applied Entomology* 120:405-411.
- GASSMANN, A. AND D. SCHROEDER. 1995. The search for effective biological control agents in Europe: history and lessons for leafy spurge (*Euphorbia esula* L.) and cypress spurge (*Euphorbia cyparissias* L.). *Biological Control* 5:466-477.
- GASSMANN, A., D. SCHROEDER, E. MAW, AND G. SOMMER. 1996. Biology, ecology, and host specificity of European *Aphthona* spp. (Coleoptera, Chrysomelidae) used as biocontrol agents for leafy spurge, *Euphorbia esula* (Euphorbiaceae), in North America. *Biological Control* 6:105-113.
- GATES, D. E. AND R. C. CHARLTON. 1963. Leaf beetles, Kansas. *Cooperative Economic Insect Report* 13(26):722-723.
- GAVLOSKI, J. E. AND R. J. LAMB. 2000a. Compensation for herbivory in cruciferous plants: specific responses to three defoliating insects. *Environmental Entomology* 29(6):1273-1282.
- GAVLOSKI, J. E. AND R. J. LAMB. 2000b. Compensation by cruciferous plants is specific to type of simulated herbivory. *Environmental Entomology* 29(6):1273-1282.
- GENTILE, A. G. AND F. P. CUTHBERT. 1969. Laboratory rearing of the tobacco flea beetle. *Journal of Economic Entomology* 62(2):513-514.

- GENTILE, A. G. AND A. K. STONER. 1968a. Damage by larvae of the tobacco flea beetle to tomato seedlings. *Journal of Economic Entomology* 61(1):152-154.
- GENTILE, A. G. AND A. K. STONER. 1968b. Resistance in *Lycopersicon* spp. to the tobacco flea beetle. *Journal of Economic Entomology* 61(5):1347-1349.
- GENTNER, L. G. 1924. Notes on North American Halticinae with descriptions of two new species and a new variety (Coleoptera). *Entomological News* 35:164-168.
- GENTNER, L. G. 1925. The mint flea beetle, *Longitarsus menthae* new species ms. Michigan Agricultural Experiment Station, The Quarterly Bulletin 7(3):109-110.
- GENTNER, L. G. 1926a. New North American Halticinae (Coleoptera) with notes on other species. *The Canadian Entomologist* 58:149-154.
- GENTNER, L. G. 1926b. The mint flea-beetle. Michigan State College, Agricultural Experiment Station, Special Bulletin 155:1-13.
- GENTNER, L. G. 1928a. Contributions to our knowledge of North American Halticinae. I. Notes, with descriptions of new species (Coleoptera: Chrysomelidae). *Transactions of the American Entomological Society* 54:57-67.
- GENTNER, L. G. 1928b. The systematic status of the mint flea beetle (Chrysom., Coleop.), with additional notes. *The Canadian Entomologist* 60:264-266.
- GENTNER, L. G. 1929. The mint flea beetle (*Longitarsus waterhousei* Kutsch). Michigan Agricultural Experiment Station, Circular Bulletin 125:1-4.
- GENTNER, L. G. 1944. The black flea beetles of the genus *Epitrix* commonly identified as *cucumeris* (Harris) (Coleoptera: Chrysomelidae). *Proceedings of the Entomological Society of Washington* 46(6):137-149.
- GENTNER, L. G. 1953. The Species of *Chaetocnema* North of Mexico (Coleoptera: Chrysomelidae). Ph.D. Dissertation. Oregon State College.
- GENTRY, J. W. 1954. Outstanding economic Coleoptera activity 1953. *The Coleopterists' Bulletin* 8(1):7-10.
- GENTRY, J. W. 1965. Crop insects of northwestern Africa southwestern Asia. United States Department of Agriculture, Agricultural Research Service, Agriculture Handbook 273:1-210.
- GENUNG, W. G. 1953a. Heavy population of pickleworm [sic] (*Diaphania nitidalis*) and melonworm (*D. hyalinata*) found on Okeechobee gourd *Pepo Okeechobeensis* on Kramer and Torrey Islands in Lake Okeechobee, Florida. Cooperative Economic Insect Report 3(8):119-120.
- GENUNG, W. G. 1953b. Banded cucumber beetle (*Diabrotica balteata*). Cooperative Economic Insect Report 3(40):712.
- GENUNG, W. G. 1954. Banded cucumber beetle (*Diabrotica balteata*). Cooperative Economic Insect Report 4(1):3.
- GENUNG, W. G. 1965a. Bean leaf beetle (*Cerotoma trifurcata*). Cooperative Economic Insect Report 15(17):382.
- GENUNG, W. G. 1965b. Bean leaf beetle (*Cerotoma trifurcata*). Cooperative Economic Insect Report 15(18):419.
- GENUNG, W. G. AND D. D. QUESTEL. 1954a. Banded cucumber beetle (*Diabrotica balteata*). Cooperative Economic Insect Report 4(43):950.
- GENUNG, W. G. AND D. D. QUESTEL. 1954b. Banded cucumber beetle (*Diabrotica balteata*). Cooperative Economic Insect Report 4(43):952.
- GENUNG, W. G., * THAMES, AND D. D. QUESTEL. 1954. Banded cucumber beetle (*Diabrotica balteata*). Cooperative Economic Insect Report 4(47):1025.
- GEORGE, B. W. AND A. M. HINTZ. 1966. Immature stages of the western corn rootworm. *Journal of Economic Entomology* 59(5):1139-1142.
- GEORGE, B. W. AND E. E. ORTMAN. 1965. Rearing of western corn rootworm in the laboratory. *Journal of Economic Entomology* 58(2):375-377.
- GERBER, G. H. 1974. Red turnip beetle on rape. *Canadex (Rapeseed, Field Crop Insects)* 149:622:1-2.
- GERBER, G. H. 1975. Occurrence of a microsporidian infection in the red turnip beetle, *Entomoscelis americana* (Coleoptera: Chrysomelidae). *The Canadian Entomologist* 107:1081-1082.
- GERBER, G. H. 1977 (1976). Effects of feeding by adults of the red turnip beetle, *Entomoscelis americana* Brown (Coleoptera: Chrysomelidae), during late July and August on the yield of rapeseed (Cruciferae). *The Manitoba Entomologist* 10:31-35.
- GERBER, G. H. 1981. Cold-hardiness in the eggs of the red turnip beetle, *Entomoscelis americana* (Coleoptera: Chrysomelidae). *The Canadian Entomologist* 113:795-800.
- GERBER, G. H. 1982. A pest management system for the red turnip beetle on rapeseed and canola. *Canada Agriculture* 27(3):8-11.
- GERBER, G. H. 1984a. Influence of date of oviposition on egg hatching and embryo survival in the red turnip beetle, *Entomoscelis americana* (Coleoptera: Chrysomelidae). *The Canadian Entomologist* 116:645-652.
- GERBER, G. H. 1984b. Native host plants of the larvae of the red turnip beetle, *Entomoscelis americana* (Coleoptera: Chrysomelidae). *The Canadian Entomologist* 116:1281-1286.
- GERBER, G. H. 1987. Reproductive cycles of the red turnip beetle, *Entomoscelis americana* Brown (Coleoptera: Chrysomelidae). *The Canadian Entomologist* 119:1069-1079.
- GERBER, G. H. 1989. The red turnip beetle, *Entomoscelis americana* (Coleoptera: Chrysomelidae): distribution, temperature adaptations, and zoogeography. *The Canadian Entomologist* 121:315-324.
- GERBER, G. H. AND R. J. LAMB. 1982. Phenology of egg hatching for the red turnip beetle, *Entomoscelis americana* (Coleoptera: Chrysomelidae). *Environmental Entomology* 11:1258-1263.

Literature Cited

- GERBER, G. H., G. B. NEILL, AND P. H. WESTDAL. 1979. The reproductive cycles of the sunflower beetle, *Zygogramma exclamationis* (Coleoptera: Chrysomelidae), in Manitoba. Canadian Journal of Zoology 57(10):1934-1943.
- GERBER, G. H. AND A. A. OBADORFIN. 1981a. Growth, development, and survival of the larvae of the red turnip beetle, *Entomoscelis americana* (Coleoptera: Chrysomelidae), on *Brassica campestris* and *B. napus* (Cruciferae). The Canadian Entomologist 113:395-406.
- GERBER, G. H. AND A. A. OBADORFIN. 1981b. The suitability of nine species of Cruciferae as hosts for the larvae of the red turnip beetle, *Entomoscelis americana* (Coleoptera: Chrysomelidae). The Canadian Entomologist 113: 407-413.
- GHIDIU, G. M., C. CARTER, AND C. A. SILCOX. 1990. The effect of host plant on Colorado potato beetle (Coleoptera: Chrysomelidae) susceptibility to insecticides. Pesticide Science 28:259-270.
- GHIDIU, G. M. AND C. A. SILCOX. 1984. Piperonyl butoxide as a tank-mixed pyrethroid synergist for Colorado potato beetle control on tomato. Journal of Agricultural Entomology 1(4):360-366.
- GIBSON, A. 1904 (1903). Basswood, or linden, insects. Annual Report of the Entomological Society of Ontario 34: 50-61.
- GIBSON, A. 1913. Flea-beetles and their control. Dominion of Canada, Department of Agriculture, Entomology Circular 2:1-11.
- GIBSON, A. 1914. The injurious flea-beetles of the Prov. of Quebec. Annual Report of the Quebec Society for the Protection of Plants from Insects and Fungous Diseases 6:25-30.
- GIBSON, A. 1928. Insects of the flower garden and their control. Dominion of Canada, Department of Agriculture, Bulletin (New Series) 99:52:1-56.
- GIBSON, A., R. P. GORHAM, G. F. HUDSON, AND J. A. FLOCK. 1925. The Colorado potato beetle in Canada. Dominion of Canada, Department of Agriculture, Bulletin (New Series) 52:1-30.
- GIBSON, R. W. 1976. Glandular hairs on *Solanum polyadenium* lessen damage by the Colorado beetle. Annals of Applied Biology 82(1):147-150.
- GIDEONSE, T. AND T. HAYDEN. 1997. Pest vs. pest, using Mother Nature to control her offspring. Newsweek, August 4, 1997:63.
- GILBERT, A. J. 1979. Biological data on *Cryptocephalus pallidicinctus* Fall (Coleoptera: Chrysomelidae). Pan-Pacific Entomologist 55(3):179-180.
- GILBERT, A. J. 1981. A new species of *Coscinoptera* Lacordaire from California (Coleoptera: Chrysomelidae). The Pan-Pacific Entomologist 57(2):364-370.
- GILBERT, A. J. AND F. G. ANDREWS. 1999. Studies on the Chrysomelidae (Coleoptera) of the Baja California Peninsula: a new species of *Scelolyperus* (Galerucinae), with notes on the genus in Baja California. The Pan-Pacific Entomologist 75(1):8-12.
- GILBERT, A. J. AND F. G. ANDREWS. 2002. Studies on the Chrysomelidae (Coleoptera) of the Baja California peninsula: the genus *Dysphenges* Horn (Galerucinae: Alticini). The Pan-Pacific Entomologist 78(2):88-100.
- GILLETTE, C. P. 1893. A few common insect pests. Colorado Agricultural Experiment Station Bulletin 24:1-16.
- GILLETTE, C. P. 1912. *Diabrotica virgifera* LeC. as a corn root-worm. Journal of Economic Entomology 5:364-366.
- GILLILAND, T. E. AND G. FARAHBAKHSH. 1963. Summary of insect conditions in Iran. Cooperative Economic Insect Report 13(5):71-72.
- GIRAULT, A. A. 1908. Outline life-history of the chrysomelid *Gastroidea cyanea* Melsheimer. Psyche 15:6-9.
- GIRAULT, A. A. 1911. A note on *Chlamys plicata* Fabricius. Entomological News 22(3):114.
- GITTINS, A. R. 1956. Western black flea beetle (*Phyllotreta pusilla*). Cooperative Economic Insect Report 6(29):694.
- GITTINS, A. R. 1957a. Summary of insect conditions – 1956, Idaho. Cooperative Economic Insect Report 7(7):118-123.
- GITTINS, A. R. 1957b. Flea beetles. Cooperative Economic Insect Report 7(29):575.
- GITTINS, A. R. 1958a. Summary of insect conditions – 1957, Idaho. Cooperative Economic Insect Report 8(13):246-252.
- GITTINS, A. R. 1958b. Flea beetles. Cooperative Economic Insect Report 8(20):379.
- GITTINS, A. R. 1958c. Flea beetles. Cooperative Economic Insect Report 8(27):586.
- GITTINS, A. R. 1959. Summary of insect conditions – 1958, Idaho. Cooperative Economic Insect Report 9(9):139-144.
- GITTINS, A. R. 1963. Leaf beetles. Cooperative Economic Insect Report 13(29):819.
- GITTINS, A. R. AND * PRIEST. 1958. Flea beetles. Cooperative Economic Insect Report 8(21):410.
- GLASS, E. H. 1940. Host plants of the tobacco flea beetle. Journal of Economic Entomology 33(3):467-470.
- GLASS, E. H. 1943. Host plants of the tobacco flea beetle, *Epitrix parvula* F. Virginia Agricultural Experiment Station, Technical Bulletin 85:1-22.
- GLEDENNING, R. 1927. The cabbage flea-beetle and its control in British Columbia. Dominion of Canada, Department of Agriculture, Pamphlet, New Series 80 (revised):1-10.
- GLOVER, *. 1960. A leaf beetle (*Anomoea laticlavata*). Cooperative Economic Insect Report 10(31):715.
- GOBLE, H. W. 1966 (1965). Insects attacking agricultural crops and ornamental plants in Ontario in 1965. Proceedings of the Entomological Society of Ontario 96:5-6.
- GOBLE, H. W. 1972 (1971). Insects of the season 1971 related to fruit, vegetables, field crops and ornamentals. Proceedings of the Entomological Society of Ontario 102:5-6.
- GOE, M. T. 1918. Life history and habits of *Gastroidea caesia* Rog. (Col.). Entomological News 29:224-226.

- GOEDEN, *. 1961. Chrysomelids. Cooperative Economic Insect Report 11(22):453.
- GOEDEN, R. D. 1971a. Insect ecology of silverleaf nightshade. *Weed Science* 19(1):45-51.
- GOEDEN, R. D. 1971b. The phytophagous insect fauna of milk thistle in southern California. *Journal of Economic Entomology* 64(5):1101-1104.
- GOEDEN, R. D. 1971c. A chrysomelid beetle (*Timarcha intricata*). Cooperative Economic Insect Report 21(20):345.
- GOEDEN, R. D. 1974. Comparative survey of the phytophagous insect faunas of Italian thistle, *Carduus pycnocephalus*, in southern California and southern Europe relative to biological weed control. *Environmental Entomology* 3(3):464-474.
- GOEDEN, R. D. 1976. The Palearctic insect fauna of milk thistle, *Silybum marianum*, as a source of biological control agents for California. *Environmental Entomology* 5(2):345-357.
- GOEDEN, R. D. AND D. W. RICKER. 1968. The phytophagous insect fauna of Russian thistle (*Salsola kali* var. *tenuifolia*) in southern California. *Annals of the Entomological Society of America* 61(1):67-72.
- GOEDEN, R. D. AND G. W. RICKER. 1974a. The phytophagous insect fauna of the ragweed, *Ambrosia acanthicarpa*, in southern California. *Environmental Entomology* 3(5):827-834.
- GOEDEN, R. D. AND G. W. RICKER. 1974b. The phytophagous insect fauna of the ragweed, *Ambrosia chamissonis*, in southern California. *Environmental Entomology* 3(5):835-839.
- GOEDEN, R. D. AND D. W. RICKER. 1975. The phytophagous insect fauna of the ragweed, *Ambrosia confertiflora*, in southern California. *Environmental Entomology* 4(2):301-306.
- GOEDEN, R. D. AND D. W. RICKER. 1976a. The phytophagous insect fauna of the ragweed, *Ambrosia dumosa*, in southern California. *Environmental Entomology* 5(1):45-50.
- GOEDEN, R. D. AND D. W. RICKER. 1976b. The phytophagous insect faunas of the ragweeds, *Ambrosia chenopodiifolia*, *A. eriocentra*, and *A. ilicifolia*, in southern California. *Environmental Entomology* 5(5):923-930.
- GOEDEN, R. D. AND D. W. RICKER. 1976c. The phytophagous insect fauna of the ragweed, *Ambrosia psilostachya*, in southern California. *Environmental Entomology* 5(6):1169-1177.
- GOEDEN, R. D. AND D. W. RICKER. 1979. Life history of *Zygogramma tortuosa* Rogers on the ragweed, *Ambrosia eriocentra* (Gray) Payne, in southern California (Coleoptera: Chrysomelidae). *The Pan-Pacific Entomologist* 55(4):261-266.
- GOEDEN, R. D. AND D. W. RICKER. 1985. The life history of *Ophraella notulata* (F.) on western ragweed, *Ambrosia psilostachya* De Candolle, in southern California (Coleoptera: Chrysomelidae). *The Pan-Pacific Entomologist* 61(1):32-37.
- GOEDEN, R. D. AND D. W. RICKER. 1986a. Phytophagous insect fauna of the desert shrub *Hymenoclea salsola* in southern California. *Annals of the Entomological Society of America* 79(1):39-47.
- GOEDEN, R. D. AND D. W. RICKER. 1986b. Phytophagous insect faunas of the two most common native *Cirsium* thistles, *C. californicum* and *C. proteanum*, in southern California. *Annals of the Entomological Society of America* 79(6):953-962.
- GOEDEN, R. D. AND D. W. RICKER. 1987a. Phytophagous insect faunas of the native thistles, *Cirsium brevistylum*, *Cirsium condonii*, *Cirsium occidentale*, and *Cirsium tioganum*, in southern California. *Annals of the Entomological Society of America* 80(2):152-160.
- GOEDEN, R. D. AND D. W. RICKER. 1987b. Phytophagous insect faunas of native *Cirsium* thistles, *C. mohavense*, *C. neomexicanum*, and *C. nidulum*, in the Mojave Desert of southern California. *Annals of the Entomological Society of America* 80(2):161-175.
- GOEDEN, R. D. AND D. W. RICKER. 1989. Phytophagous insect faunas of the desert shrubs *Bebbia juncea* and *Trixis californica* in southern California. *Annals of the Entomological Society of America* 82(3):325-331.
- GOEDEN, R. D. AND J. A. TEERINK. 1993. Phytophagous insect faunas of *Dicoria canescens* and *Iva axillaris*, native relatives of ragweeds, *Ambrosia* spp., in southern California, with analyses of insect associates of Ambrosiinae. *Annals of the Entomological Society of America* 86(1):37-50.
- GOIDANICH, A. 1956. Gregarismi od individualismi larvali e cure materne nei crisomelidi (Col. Chrysomelidae). *Memorie della Società Entomologica Italiana* 35:151-183.
- GÓMEZ-ZURITA, J., A. P. VOGLER, AND D. J. FUNK. 2004. Diagnosing an overlooked North American taxon: biological observations and mitochondrial insights on *Calligrapha suturella* Schaeffer, new status (Coleoptera, Chrysomelidae). *Annals of the Entomological Society of America* 97(1):28-36.
- GOMULINSKI, M. S. 1967. Cereal leaf beetle (*Oulema melanopus*). Cooperative Economic Insect Report 17(17):353.
- GONÇALVES, R. AND M. V. MACÊDO. 2003. Population ecology of the polymorphic species *Chelymormpha cribraria* (Coleoptera: Chrysomelidae) in Rio de Janeiro, Brazil. Pages 285-294 in D. G. Furth (ed.). *Special Topics in Leaf Beetle Biology, Proceedings of the Fifth International Symposium on the Chrysomelidae*, 25-27 August 2000, Iguassu Falls, Brazil, XXI International Congress of Entomology. Pensoft Series Faunistica No. 29. Pensoft Publishers, Sofia, Bulgaria.
- GONZÁLEZ, R., C. CARDONA, AND A. VAN SCHOONHOVEN. 1982. Morfología y biología de los crisomélidos *Diabrotica balteata* LeConte y *Ceratomyza facialis* Erickson como plagas del frijol común. *Turrialba* 32(2):257-264.
- GOODFELLOW, V. V. 1956. Summary of insect conditions – 1955, North Dakota. Cooperative Economic Insect Report 6(3):43-46.
- GORDON, C. D. 1973. Flea beetles – Tennessee. Cooperative Economic Insect Report 23(29):464.

Literature Cited

- GOSSARD, H. A. 1911. Fall manual of practice in economic entomology. Bulletin of the Ohio Agricultural Experiment Station 233:53-164.
- GOSSINGTON, B. 1976. Residents of the lily pad. Insect World Digest 3(1):14-15.
- GOULD, G. E. 1939. Cucumber beetle control studies in 1937 and 1938. Journal of Economic Entomology 32(4):534-537.
- GOULD, G. E. 1944. The biology and control of the striped cucumber beetle. Purdue University, Agricultural Experiment Station, Bulletin 490:1-28.
- GOULD, G. E. 1957. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 7(34):687.
- GOULD, G. E. 1958. Striped cucumber beetle (*Acalymma vittata*). Cooperative Economic Insect Report 8(35):758.
- GOULD, G. E. 1959a (1958). Varietal susceptibility of cucurbits to cucumber beetle attack. Proceedings of the Indiana Academy of Science 68:186-189.
- GOULD, G. E. 1959b. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 9(31):706.
- GOULD, G. E. 1962. Attractiveness of squash varieties to cucumber beetles. Proceedings of the North Central Branch, Entomological Society of America 17:154-157.
- GOULD, G. E., L. O. WARREN, AND G. BARNES. 1954. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 4(38):869.
- GOURVÈS, J. AND G. A. SAMUELSON. 1979. Les Chrysomélidae de Tahiti (Coléoptères). Pacific Insects 20(4):410-415.
- GRAHAM, *. 1962. A leaf beetle (*Anomoea laticlavata*). Cooperative Economic Insect Report 12(24):622.
- GRANT, J. 1969. *Brachycoryna hardyi* Crotch and *Microrhopala cyanea* (Say), two Hispinae rare in British Columbia (Coleoptera: Chrysomelidae). Journal of the Entomological Society of British Columbia 66:25.
- GRAVE, B. H. 1917. *Zeugophora scutellaris* (Suffr.). Journal of Morphology 30(1):245-259.
- GRAY, * AND M. H. FARRIER. 1960. A leaf beetle (*Chrysomela interrupta*). Cooperative Economic Insect Report 10(20):387.
- GRAYSON, J. M. AND F. W. POOS. 1947. Southern corn rootworm as a pest of peanuts. Journal of Economic Entomology 40(2):251-256.
- GREEN, G. 1939. The biology of *Lema sexpunctata* Oliv. Journal of the Kansas Entomological Society 12(4):128-132.
- GREENE, G. L. 1961. A chrysomelid (*Chrysomela interrupta*). Cooperative Economic Insect Report 11(18):357.
- GREENE, G. L. 1970. Seasonal occurrence of Chrysomelidae in a native prairie near Manhattan, Kansas. Journal of the Kansas Entomological Society 43(1):95-101.
- GRESSITT, J. L. AND S. KIMOTO. 1963. The Chrysomelidae (Coleoptera) of China and Korea. Part 2. Pacific Insects Monograph 1:301-1026.
- GRIFFITH, *. 1963. Leaf beetles. Cooperative Economic Insect Report 13(38):1118.
- GRIFFITH, *. 1965. A flea beetle (*Altica litigata*). Cooperative Economic Insect Report 15(25):655.
- GRILLO RAVELO, H. 1979. *Colaspis brunnea* Fabricius (coleoptera: chrysomelidae [sic, words should have been capitalized]) en Cuba. Universidad Central de las Villas, Centro Agrícola, Mayo-Agosto 1975:75-80.
- GRIMES, W. H. 1958a. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 8(11):185.
- GRIMES, W. H. 1958b. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 8(19):366.
- GRIMES, W. H. 1958c. Bean leaf beetle (*Cerotoma trifurcata*). Cooperative Economic Insect Report 8(22):445.
- GRIMES, W. H. 1959a. Summary of insect conditions – 1958, Alabama. Cooperative Economic Insect Report 9(16):291-296.
- GRIMES, W. H. 1959b. Bean leaf beetle (*Cerotoma trifurcata*). Cooperative Economic Insect Report 9(20):383.
- GRIMES, W. H. 1959c. Striped flea beetle (*Phyllotreta striolata*). Cooperative Economic Insect Report 9(21):413.
- GRIMES, W. H., K. L. HAYS, F. E. GUYTON, AND W. A. RUFFIN. 1959. Additional notes, Alabama. Cooperative Economic Insect Report 8(16):289.
- GRODEN, E. AND R. A. CASAGRANDE. 1986. Population dynamics of the Colorado potato beetle, *Leptinotarsa decemlineata* (Coleoptera: Chrysomelidae), on *Solanum berthaultii*. Journal of Economic Entomology 79(1):91-97.
- GRUEV, B. 1991. The Bulgarian species of the *Longitarsus pratensis*-group (Coleoptera, Chrysomelidae: Alticinae). Travaux Scientifiques 29(6):35-42.
- GUI, H. L. 1938. Potato flea beetles and their control. Ohio Agricultural Experiment Station Bulletin 595:1-29.
- GUPPY, J. C. 1958. Insects surveys of clovers, alfalfa, and birdsfoot trefoil in eastern Ontario. The Canadian Entomologist 90(9):523-531.
- GUSS, P. L. AND J. L. KRYSAN. 1973. Maintenance of the southern corn rootworm on a dry diet. Journal of Economic Entomology 66:352-353.
- GUTHRIE, *, * FINDLAY, AND W. F. LYON. 1963. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 13(26):707.
- GUTHRIE, E. 1931. Notes on egg hatching—larval, pupal, and adult development in *Lina scripta* (Fabr.) (Coleoptera: Chrysomelidae). The Pan-Pacific Entomologist 7(3):107-109.

- GUTIERREZ, J. AND I. W. FORNO. 1989. Introduction into New Caledonia of two hispine phytophages of lantana: *Octotoma scabripennis* and *Uroplata girardi* (Coleoptera, Chrysomelidae). *Acta (Ecologica/Ecologia Applicata)* 10(1):19-29.
- GUYTON, F. E. AND W. H. GRIMES. 1958. Cucumber beetles. Cooperative Economic Insect Report 8(15):277.
- GUYTON, T. L. 1927. Notes on the occurrence of *Luperodes thorasicus* [sic] as an insect pest of fruit trees. *Journal of Economic Entomology* 20(1):193-194.
- HABECK, D. H. 1979. Host plant of *Pseudolampsis guttata* (LeConte) (Coleoptera: Chrysomelidae). *The Coleopterists Bulletin* 33(2):150.
- HABECK, D. H. AND R. WILKERSON. 1980. The life cycle of *Lysathia ludoviciana* (Fall) (Coleoptera: Chrysomelidae) on parrotfeather, *Myriophyllum aquaticum* (Velloso) Verde. *The Coleopterists Bulletin* 34(2):167-170.
- HACKER, J. D. 1973. Northern corn rootworm (*Diabrotica longicornis*). Cooperative Economic Insect Report 23(15):210.
- HACKER, J. D. 1974. Northern corn rootworm (*Diabrotica longicornis*). Cooperative Economic Insect Report 24(37):747.
- HACKER, J. D. 1975. Imported willow leaf beetle (*Plagioderma versicolora*). Cooperative Economic Insect Report 25(33):688.
- HACKER, J. D. 1977a. A chrysomelid beetle (*Cassida rubiginosa*). Cooperative Plant Pest Report 2(28):520.
- HACKER, J. D. 1977b. A chrysomelid beetle (*Cassida rubiginosa*). Cooperative Plant Pest Report 2(31):597.
- HACKER, J. D. 1979. Northern corn rootworm (*Diabrotica longicornis*). Cooperative Plant Pest Report 4(34):670.
- HADDAD, O., A. ORDOSGOITTY, AND J. BECHYNÉ. 1970. Daños causados por *Disonycha glabrata* (Fabricius) en *Pasiflora quadrangularis* L. *Agronomía Tropical* 20(5):331-334.
- HAGEN, A. 1961. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 11(24):507.
- HAGEN, A. 1967. Flea beetles. Cooperative Economic Insect Report 17(21):442.
- HAGEN, H. A. 1884a. *Chrysomela scalaris*. *The Canadian Entomologist* 16:120.
- HAGEN, H. A. 1884b. Note on *Chalcographa scalaris*, LeConte. *The Canadian Entomologist* 16:225-226.
- HALDEMAN, S. S. 1849. Cryptocephalarum Boreali-americae diagnoses cum speciebus novis musei lecontiani. *Journal of the Academy of Natural Sciences of Philadelphia* 1:245-265.
- HALE, F. A. AND J. F. GRANT. 2003. Insect Defoliators of Ornamental Trees and Shrubs, SP 609. Agricultural Extension Service, The University of Tennessee. 6 pages.
- HALFORD, S. A., G. B. RICH, AND I. BERGIS. 1973a. A chrysomelid beetle defoliating big sagebrush in south-central British Columbia. *Canadian Journal of Plant Science* 53:383-384.
- HALFORD, S. A., G. B. RICH, AND I. BERGIS. 1973b. Insects associated with big sagebrush and timber milkvetch in the vicinity of Kamloops, British Columbia. *The Canadian Agricultural Insect Pest Review* 51:61-70.
- HALL, F. H. 1899. How to handle the striped beetle on cucumber. *New York Agricultural Experiment Station Bulletin*, Popular Edition 158:1-6.
- HALL, R. W. 1986. Preference for and suitability of elms for adult elm leaf beetle (*Xanthogaleruca luteola*) (Coleoptera: Chrysomelidae). *Environmental Entomology* 15(1):143-146.
- HALL, R. W., D. G. NIELSEN, C. E. YOUNG, AND M. R. HAMERSKI. 1988. Mortality of elm leaf beetle (Coleoptera: Chrysomelidae) larvae exposed to insecticide bands applied to elm bark. *Journal of Economic Entomology* 81(3):877-879.
- HALL, R. W. AND A. M. TOWNSEND. 1987. Suitability of *Ulmus wilsoniana*, the 'urban' elm, and their hybrids for the elm leaf beetle, *Xanthogaleruca luteola* (Müller) (Coleoptera: Chrysomelidae). *Environmental Entomology* 16(5):1042-1045.
- HALL, R. W., A. M. TOWNSEND, AND J. H. BARGER. 1987. Suitability of thirteen different host species for elm leaf beetle, *Xanthogaleruca luteola* (Coleoptera: Chrysomelidae). *Journal of Environmental Horticulture* 5(3):143-145.
- HALL, R. W. AND C. E. YOUNG. 1986. Host suitability of three Asiatic elms to the elm leaf beetle (*Xanthogaleruca luteola*) (Coleoptera: Chrysomelidae). *Journal of Environmental Horticulture* 4(2):44-46.
- HALLOCK, H. C. 1939. Notes on Pennsylvania flea beetles in tobacco fields (Coleoptera: Chrysomelidae). *Entomological News* 50:121-124, 156-159.
- HAMBLETON, E. 1954. Flea beetles. Cooperative Economic Insect Report 4(23):473.
- HAMILTON, E. W. 1992. Pollen substitute and honey in diet for *Diabrotica*. *Journal of Economic Entomology* 65(3):887.
- HAMILTON, J. 1884. On *Trogoderma ornata*, *Physonota unipunctata* and *Tanyphyrus lemnae*. *The Canadian Entomologist* 16:133-136.
- HAMILTON, J. 1888. Natural history notes on Coleoptera No. 4. *The Canadian Entomologist* 20:61-67.
- HAMILTON, J. 1894a. Catalogue of the Coleoptera of Alaska, with the synonymy and distribution. *Transactions of the American Entomological Society* 21:1-38.
- HAMILTON, J. 1894b. Catalogue of the Coleoptera common to North America, northern Asia and Europe, with distribution and biology. *Transactions of the American Entomological Society* 21:345-416.
- HAMILTON, J. 1895. Catalogue of the Coleoptera of southwestern Pennsylvania, with notes and descriptions. *Transactions of the American Entomological Society* 22:317-381.

Literature Cited

- HANNA, L. W. 1963. Western spotted cucumber beetle (*Diabrotica undecimpunctata undecimpunctata*). Cooperative Economic Insect Report 13(25):677.
- HANSEN, H. L. AND C. K. DORSEY. 1957. Southern corn rootworm control in West Virginia. West Virginia University, Agricultural Experiment Station, Circular 102:1-5.
- HANSON, A. J. 1933. The potato flea beetles, *Epitrix cucumeris* Harris, *Epitrix subcrinita* Leconte. Washington Agricultural Experiment Station Bulletin 280:1-27.
- HANSON, T. AND E. B. WALKER. 1996. Field Guide to Common Insect Pests of Urban Trees in the Northeast. Vermont Department of Forests, Parks and Recreation, Forest Biology Laboratory, Waterbury, Vermont.
- HANTEN, *. 1961. Cucumber beetles (*Diabrotica* spp.). Cooperative Economic Insect Report 11(42):962.
- HANTSBARGER, W. H. 1963. Flea beetles. Cooperative Economic Insect Report 13(28):790.
- HANTSBARGER, W. M. 1979. Western corn rootworm (*Diabrotica virgifera*). Cooperative Plant Pest Report 4(41):797.
- HANTSBARGER, W. M. AND * KLIX. 1958a. Striped flea beetle (*Phyllotreta striolata*). Cooperative Economic Insect Report 8(34):738.
- HANTSBARGER, W. M. AND * KLIX. 1958b. Striped flea beetle (*Phyllotreta striolata*). Cooperative Economic Insect Report 8(37):797.
- HARDING, *. 1959a. Additional notes. Cooperative Economic Insect Report 9(7):88.
- HARDING, *. 1959b. Flea beetles. Cooperative Economic Insect Report 9(13):214.
- HARDING, *. 1960a. Western black flea beetle (*Phyllotreta pusilla*). Cooperative Economic Insect Report 10(16):281.
- HARDING, *. 1960b. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 10(16):286.
- HARDING, *. 1960c. Flea beetles (*Phyllotreta* spp.). Cooperative Economic Insect Report 10(43):995.
- HARDING, *. 1962. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 12(10):163.
- HARDING, *. 1963a. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 13(12):252.
- HARDING, *. 1963b. A tortoise beetle (*Gratiana pallidula*). Cooperative Economic Insect Report 13(13):282.
- HARDING, * AND J. H. HAWKINS. 1959. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 9(8):107.
- HARDING, * AND L. D. NEWSOM. 1963. Cucumber beetles (*Diabrotica* spp.). Cooperative Economic Insect Report 13(13):282.
- HARDING, W. C. AND T. L. BISSELL. 1954. Summary of insect conditions – 1954, Maryland. Cooperative Economic Insect Report 4(50):1086-1091.
- HARDY, *. 1966. Hawaii insect report; forest, ornamental and shade tree insects. Cooperative Economic Insect Report 16(14):286.
- HARE, J. D. 1983. Seasonal variation in plant-insect associations: utilization of *Solanum dulcamara* by *Leptinotarsa decemlineata*. Ecology 64(2):345-361.
- HARE, J. D. 1990. Ecology and management of the Colorado potato beetle. Annual Review of Entomology 35:81-100.
- HARE, J. D. AND T. G. ANDREADIS. 1983. Variation in the susceptibility of *Leptinotarsa decemlineata* (Coleoptera: Chrysomelidae) when reared on different host plants to the fungal pathogen, *Beauveria bassiana* in the field and laboratory. Environmental Entomology 12(6):1891-1896.
- HARE, J. D. AND G. G. KENNEDY. 1986. Genetic variation in plant-insect associations: survival of *Leptinotarsa decemlineata* populations on *Solanum carolinense*. Evolution 40(5):1031-1043.
- HARE, J. D. AND R. E. B. MOORE. 1988. Impact and management of late-season populations of the Colorado potato beetle (Coleoptera: Chrysomelidae) on potato in Connecticut. Journal of Economic Entomology 81(3):914-921.
- HARGROVE, W. W. 1986. An annotated species list of insect herbivores commonly associated with black locust, *Robinia pseudoacacia*, in the southern Appalachians. Entomological News 97(1):36-40.
- HARLEY, *. 1966a. Hawaii insect report, beneficial insects. Cooperative Economic Insect Report 16(23):530.
- HARLEY, *. 1966b. Hawaii insect report, beneficial insects. Cooperative Economic Insect Report 16(39):948.
- HARLEY, K. L. S. 1969. The suitability of *Ocotoma scabripennis* Guér. and *Uroplata girardi* Pic (Col., Chrysomelidae) for the control of *Lantana* (Verbenaceae) in Australia. Bulletin of Entomological Research 58(4):835-843.
- HARMAN, S. W. 1931. The cranberry rootworm as an apple pest. Journal of Economic Entomology 24:180-182.
- HARNED, R. W. 1915. The corn-silk beetle, *Luperodes varicornis* Lec., and its control. Journal of Economic Entomology 8:507-508.
- HARNED, R. W. 1953. Cooperative importance of cotton pests within orders or families. Cooperative Economic Insect Report 3(3):36-38.
- HARRELL, M. O., D. M. BENJAMIN, J. G. BERBEE, AND T. R. BURKOT. 1981. Evaluation of adult cottonwood leaf beetle, *Chrysomela scripta* (Coleoptera: Chrysomelidae), feeding preference for hybrid poplars. The Great Lakes Entomologist 14(4):181-184.
- HARRELL, M. O., D. M. BENJAMIN, J. G. BERBEE, AND T. R. BURKOT. 1982. Consumption and utilization of leaf tissue of tissue-cultured *Populus x euramericana* by the cottonwood leaf beetle, *Chrysomela scripta* (Coleoptera: Chrysomelidae). The Canadian Entomologist 114:743-749.
- HARRIES, V. 1975. Zur innerartlichen Variabilität, Wirtspflanzen-Präferenz und Schadendeutung von Blattkäfern der U.

- F. Galerucinae (Col., Chrysomelidae) in Feldkulturen des Cauca-Flußtals/Columbien. *Zeitschrift für angewandte Zoologie* 62:491-497.
- HARRINGTON, W. H. 1879. Correspondence. *The Canadian Entomologist* 11(6):119-120.
- HARRINGTON, W. H. 1883 (1882). Chrysomelidae – leaf-eaters. *Annual Report of the Entomological Society of Ontario* 13:53-62.
- HARRINGTON, W. H. 1884. Additions to Canadian lists of Coleoptera. *The Canadian Entomologist* 16:44-47, 70-73, 96-98.
- HARRINGTON, W. H. 1894. Notes on a few Canadian Coleoptera. *Entomological Society of Ontario, Annual Report* 25: 47-49.
- HARRIS, H. M. 1931. Twelve-spotted asparagus beetle in Iowa. *Journal of Economic Entomology* 24:1311.
- HARRIS, P. 1964. Host specificity of *Altica carduorum* Guer. (Coleoptera: Chrysomelidae). *Canadian Journal of Zoology* 42:857-862.
- HARRIS, P., D. PESCHKEN, AND J. MILROY. 1969. The status of biological control of the weed *Hypericum perforatum* in British Columbia. *The Canadian Entomologist* 101(1):1-15.
- HARRIS, P. AND G. L. PIPER. 1970. Ragweed (*Ambrosia* spp.: Compositae): its North American insects and the possibilities for its biological control. *Commonwealth Institute of Biological Control, Technical Bulletin* 13:117-140.
- HARRIS, T. W. 1835. Upon the economy of some American species of *Hispa*. *Boston Journal of Natural History* 1:141-151.
- HARRIS, T. W. 1841. A Report on the Insects of Massachusetts, Injurious to Vegetation. Folsom, Wells, and Thurston, Cambridge Massachusetts. 459 pages.
- HARRIS, T. W. 1851. Insects on the potato vine. *The Journal of Agriculture* 1:99-102.
- HARRIS, T. W. 1863. A treatise on some of the Insects Injurious to Vegetation. Crosby and Nichols, New York. 640 pages.
- HARRISON, G. D. 1987. Host-plant discrimination and evolution of feeding preference in the Colorado potato beetle *Leptinotarsa decemlineata*. *Physiological Entomology* 12:407-415.
- HARRISON, G. D. AND B. K. MITCHELL. 1988. Host-plant acceptance by geographical populations of the Colorado potato beetle, *Leptinotarsa decemlineata*. Role of solanaceous alkaloids as sensory deterrents. *Journal of Chemical Ecology* 14(3):777-788.
- HARTZELL, F. Z. 1915. The grape root-worm. *New York Agricultural Experiment Station Circular* 41:1-6.
- HARTZELL, F. Z. 1917. The cherry leaf-beetle. *New York Agricultural Experiment Station Bulletin* 444:749-820.
- HARTZELL, F. Z. 1918. Experiments for the control of the grape root-worm. *New York Agricultural Experiment Station Bulletin* 453:257-332.
- HARTZELL, F. Z. AND P. J. PARROTT. 1916. The cherry leaf-beetle. *New York Agricultural Experiment Station, Circular* 49:1-3.
- HARTZOG, *, * DAVIS, AND * BAREFIELD. 1964. Southern corn rootworm (*Diabrotica undecimpunctata howardi*). *Cooperative Economic Insect Report* 14(11):174.
- HARUKAWA, C. AND M. TOKUNAGA. 1938. Studies on the life history and bionomics of *Phyllotreta vittata* Fabricius I. Life history of *Phyllotreta vittata* Fabricius. *Memoirs of the College of Agriculture, Kyoto Imperial University* 44:1-48.
- HASEMAN, L. 1931. Observations on the wintering habits of the striped cucumber beetle. *Journal of Economic Entomology* 24:486-490.
- HATCH, M. H. 1924a. A preliminary list of the Coleoptera of the Cranberry Lake region, New York, exclusive of the Buprestidae, Cerambycidae and Ipidae. *New York State College of Forestry at Syracuse University, Technical Publication* 17:273-312.
- HATCH, M. H. 1924b. A list of Coleoptera from Charlevoix County, Michigan. *Papers of the Michigan Academy of Science, Arts and Letters* 4:543-586.
- HATCH, M. H. 1935. A new sub-alpine genus of Halcini from North America (Coleop.: Chrysomelidae). *Entomological News* 46:276-278.
- HATCH, M. H. 1971. The beetles of the Pacific Northwest. Part V: Rhipicerioidea, Sternoxi, Phytophaga, Rhynchophora, and Lamellicornia. *University of Washington Publications in Biology* 16:1-662.
- HATCH, M. H. AND S. BELLER. 1932. A preliminary catalogue of the Chrysomelidae of Oregon. *The Pan-Pacific Entomologist* 8(3):102-108.
- HATCH, M. H. AND A. I. ORTENBURGER. 1930. Records and new species of Coleoptera from Oklahoma. *Publications of the University of Oklahoma Biological Survey* 2(1):7-14.
- HATFIELD, *. 1959. A leaf beetle (*Anomoea laticlavata*). *Cooperative Economic Insect Report* 9(22):464.
- HAVILAND, E. E. 1943. Hibernation and survival of the locust leaf-miner. *Journal of Economic Entomology* 36(4): 639-640.
- HAWKES, R. B., L. A. ANDRES, AND W. H. ANDERSON. 1967. Release and progress of an introduced flea beetle, *Agasicles* n. sp., to control alligatorweed. *Journal of Economic Entomology* 60(5):1476-1477.
- HAWKES, R. B. AND G. R. JOHNSON. 1976. *Longitarsus jacobaeae* aids moth in the biological control of tansy ragwort. Pages 193-196 in T. E. Freeman (ed.). *Proceedings of the IV International Symposium on Biological Control of Weeds*. The Center for Environmental Programs, Institute of Food and Agricultural Sciences, University of Florida, Gainesville, Florida.

Literature Cited

- HAWKESWOOD, T. J. 1988. A survey of the leaf beetles (Coleoptera: Chrysomelidae) from the Townsville district, northern Queensland, Australia. *Giornale Italiano di Entomologia* 4:93-112.
- HAWLEY, I. M. 1918. Insects injurious to the hop in New York with special reference to the hop grub and the hop red-bug. Cornell University, Agricultural Experiment Station, Memoir 15:145-224.
- HAWLEY, I. M. 1922. Insects and other animal pests injurious to field beans in New York. Cornell University, Agricultural Experiment Station, Memoir 55:943-1037.
- HAWLEY, I. M. 1925. The more important insects injurious to the sugar-beet in Utah. Utah Agricultural Experiment Station Circular 54:1-45.
- HAWS, B. A. 1962. Striped flea beetle (*Phyllotreta striolata*). Cooperative Economic Insect Report 12(28):757.
- HAWS, B. A., G. E. BOHART, R. W. MEADOWS, E. M. COOMBS, AND A. H. ROE. 1984. Status of information concerning insects associated with selected species of *Atriplex*. United States Department of Agriculture, Forest Service, Intermountain Forest and Range Experiment Station, General Technical Report INT-172:226-236.
- HAWS, B. A., G. E. BOHART, C. R. NELSON, AND D. L. NELSON. 1990. Insects and shrub dieoff in western states: 1986-89 survey. United States Department of Agriculture, Forest Service, Intermountain Research Station, General Technical Report INT-276:127-151.
- HAWTHORN, W. R. 1978. Some effects of different *Plantago* species on feeding preference and egg laying in the flea beetle *Dibolia borealis* Chev. (Chrysomelidae). *Canadian Journal of Zoology* 56:1507-1513.
- HAYES, W. P. 1922. A preliminary list of insects of the sorghum field. *Transactions of the Kansas Academy of Science* 30:235-240.
- HAYNES, D. L. AND S. H. GAGE. 1981. The cereal leaf beetle in North America. *Annual Review of Entomology* 26:259-287.
- HAYSLIP, N. C., W. G. GENUNG, E. G. KELSHEIMER, AND J. W. WILSON. 1953. Insects attacking cabbage and other crucifers in Florida. University of Florida, Agricultural Experiment Stations, Bulletin 534:1-57.
- HEAD, R. B., W. W. NEEL, AND R. C. MORRIS. 1977. Seasonal occurrence of the cottonwood leaf beetle *Chrysomela scripta* (Fab.) and its principal insect predators in Mississippi and notes on parasites. *Journal of the Georgia Entomological Society* 12(2):157-163.
- HEADLEE, T. J. 1908a. Life history of the striped cucumber beetle with a brief account of some experiments for its control. *Journal of Economic Entomology* 1:203-209.
- HEADLEE, T. J. 1908b. The striped cucumber beetle (*Diabrotica vittata* Fabr.). Report of the New Hampshire Agricultural Experiment Station 20:499-513.
- HEFLEY, H. M. 1937. The relations of some native insects to introduced food plants. *The Journal of Animal Ecology* 6(1):138-144.
- HEGNER, R. W. 1908. Observations on the breeding habits of three chrysomelid beetles, *Calligrapha bigsbyana*, *C. multipunctata* and *C. lunata*. *Psyche* 15:21-24.
- HEGNER, R. W. 1910. The food of *Calligrapha bigsbyana*, a chrysomelid beetle. *Psyche* 17:160.
- HEIKERTINGER, F. 1944. Bestimmungstabellen europäischer Käfer. LXXXII. Fam. Chrysomelidae. 5. Subfam. Halticinae. 2. Gatt. *Aphthona* Chevr. Bestimmungstabelle der paläarktischen *Aphthona*-Arten. Mit einem Anhang, betreffend die *Aphthona*-Arten des orientalischen Faunengebietes, sowie Ergänzungen zur Bestimmungstabelle der paläarktischen *Phyllotreta*-Arten. *Koleopterologische Rundschau* 30:37-124.
- HEIKERTINGER, F. 1950. Bestimmungstabellen europäischer Käfer. LXXXII. Fam. Chrysomelidae. 5. Subfam. Halticinae. 30. Gattung: *Crepidodera*-Verwandschaft weitesten Sinnes. Bestimmungstabelle der paläarktischen Arten der Halticinenngattungen: *Crepidodera* (Chevr.), *Derocephala* Weise (mit *Aeschrocnemis* Weise), *Ochrosia* Foudr. (mit *Lythraia* Bedel und *Neocrepidodera* Heiktgr.), *Orestia* Germ., *Hippuriphila* Foudr., *Chalcoides* Foudr., *Epithrix* Foudr., *Arrhenocoela* Foudr., *Minota* Kutsch., *Cardax* Weise, *Batophila* Foudr., sowie der ostpaläarktischen Arten der asiatischen Gattungen *Xuthea* Baly, *Novofoudrasia* Jacobs., *Pseudodera* Baly, *Crepidomorpha* Heiktgr., *Phygasia* Baly (*Scallodera* Har.), *Lipromima* Heiktgr. und *Manobia* Jacoby. Mit Berücksichtigung der Arten der orientalischen Grenzgebiete und des holarktischen Nordamerika. *Koleopterologische Rundschau* 31:15-139.
- HEISER, C. B. 1963 (1962). Some observations on pollination and compatibility in *Magnolia*. *Proceedings of the Indiana Academy of Science* 72:259-266.
- HELM, C. G., M. R. JEFFORDS, S. L. POST, AND M. KOGAN. 1983. Spring feeding activity of overwintering bean leaf beetles (Coleoptera: Chrysomelidae) on nonleguminous hosts. *Environmental Entomology* 12(2):321-322.
- HELMS, *. 1962. Southern corn rootworm (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 12(34):949.
- HENENWAY, R. AND W. H. WHITCOMB. 1968. The life history of *Disonychia glabrata* (Coleoptera: Chrysomelidae). *Journal of the Kansas Entomological Society* 41(2):174-178.
- HENDERSON, *. 1967. A weevil (*Notolomus basalis*). Cooperative Economic Insect Report 17(7):91.
- HENDERSON, C. F. 1959. Corn flea beetle (*Chaetocnema pulicaria*). Cooperative Economic Insect Report 9(22):451.
- HENDRICKSON, G. O. 1928. Some notes on the insect fauna of an Iowa prairie. *Annals of the Entomological Society of America* 21(1):132-138.
- HENDRICKSON, G. O. 1930a. Biologic notes on *Microrhopala vittata* Fabr. (Coleoptera: Chrysomelidae). *The Canadian Entomologist* 62:98-99.

- HENDRICKSON, G. O. 1930b. Studies on the insect fauna of Iowa prairies. *Iowa State College Journal of Science* 4:49-179.
- HENDRICKSON, G. O. 1931a. Subterranean insects of marsh grass (*Spartina Michauxiana* Hitchcock). *The Canadian Entomologist* 63(5):109-110.
- HENDRICKSON, G. O. 1931b. Further studies of the insect fauna of Iowa prairies. *Iowa State College Journal of Science* 5(4):195-209.
- HENINGER, *. 1967. Western corn rootworm (*Diabrotica virgifera*). Cooperative Economic Insect Report 17(33):756.
- HERRICK, G. W. 1910. The elm leaf-beetle. Cornell University, Agricultural Experiment Station, Circular 8:1-6.
- HERRICK, G. W. 1913. Control of two elm-tree pests. Cornell University, Agricultural Experiment Station, Bulletin 333:491-512.
- HERRICK, G. W. 1935. Insect Enemies of Shade-trees. Comstock Publishing Company, Ithaca, New York. 417 pages.
- HERRICK, G. W. AND R. MATHESON. 1916. Observations on the life history of the cherry leaf beetle. *Journal of Agricultural Research* 5(20):943-950.
- HERZIG, A. L. 1995. Effects of population density on long-distance dispersal in the goldenrod beetle *Trirhabda virgata*. *Ecology* 76(7):2044-2054.
- HERZIG, A. L. AND R. B. ROOT. 1996. Colonization of host patches following long-distance dispersal by a goldenrod beetle, *Trirhabda virgata*. *Ecological Entomology* 21:344-351.
- HERZOG, D. C., C. E. EASTMAN, AND L. D. NEWSOM. 1974. Laboratory rearing of the bean leaf beetle. *Journal of Economic Entomology* 67(6):794-795.
- HESLER, L. S. 1993. New records of leaf-feeding for adult *Diabrotica barberi* (Coleoptera: Chrysomelidae). *The Great Lakes Entomologist* 26(3):241-243.
- HESPENHEIDE, H. A. 1991. Bionomics of leaf-mining insects. *Annual Review of Entomology* 36:535-560.
- HESPENHEIDE, H. A. 1996. Chrysomelidae of the subfamily Clytrinae as models for mimicry complexes. Pages 227-239 in P. H. A. Jolivet and M. L. Cox (eds.). *Chrysomelidae Biology, Vol. 2: Ecological Studies*. SPB Academic Publishing, Amsterdam, The Netherlands.
- HESPENHEIDE, H. A. AND V. DANG. 1999. Biology and ecology of leaf-mining Hispinae (Coleoptera, Chrysomelidae) of the La Selva Biological Station, Costa Rica. Pages 375-389 in M. L. Cox (ed.). *Advances in Chrysomelidae Biology 1*. Backhuys Publishers, Leiden, The Netherlands.
- HESTER, J. G. AND D. F. YOUNG. 1952. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 2(31):399.
- HETRICK, *. 1954. Other notes of interest, Florida. Cooperative Economic Insect Report 4(15):301.
- HEU, R. 1986. Survey for *Brontispa chalybeipennis* on Oahu. *Proceedings of the Hawaiian Entomological Society* 27:16.
- HEWITT, G. B., E. W. HUDDLESTON, R. J. LAVIGNE, D. N. UECKERT, AND J. G. WATTS. 1974. Rangeland entomology. Society for Range Management, Range Science Series 2:1-127.
- HEYER, W. 1996. Biologisch-ökologische Grundlagen des Monitorings von Schadinsekten der Bohne (*Phaseolus vulgaris* L.). *Giessener Beiträge zur Entwicklungsforschung* 23:159-174.
- HEYER, W., M. L. CHIANG LOK, AND B. CRUZ. 1988a. Zum Einfluß der Temperatur und Wirtspflanze auf die Entwicklung von *Andrector ruficornis* (Oliv.) (Coleoptera: Chrysomelidae). *Beitraege zur Entomologie* 38(1):183-188.
- HEYER, W., M. L. CHIANG LOK, AND B. CRUZ. 1988b. Zum Geschlechterverhältnis ausgewählter Schadinsektenpopulationen in Bohnenbeständen. *Beitraege zur Entomologie* 38(1):189-194.
- HEYER, W., M. L. CHIANG LOK, AND B. CRUZ. 1989. Some aspects of biology and population dynamics of *Diabrotica balteata* Lec. and *Systema basalis* Duval. (Coleoptera, Chrysomelidae), maize and bean pests in Cuba. *Acta Phytopathologica et Entomologica Hungarica* 24(1-2):93-97.
- HEYER, W., M. L. CHIANG LOK, AND B. CRUZ. 1991. Zum Fraßvermögen der Blattkäfer *Diabrotica balteata* Lec., *Andrector ruficornis* (Oliv.) und *Systema basalis* Duval. sowie der Minierfliege *Liriomyza trifolii* (Burgess) an der Bohne (*Phaseolus vulgaris* L.). *Beitraege zur Entomologie* 41(2):419-424.
- HEYER, W., M. L. CHIANG LOK, AND B. CRUZ. 1993. Zur Fertilität und Mortalität der Chrysomeliden *Diabrotica balteata* Lec., *Andrector ruficornis* (Oliv.) und *Systema basalis* Duval. *Beitraege zur Entomologie* 43(2):379-385.
- HEYER, W. AND B. CRUZ. 1983. Influencia de la temperatura y la planta hospedera sobre el desarrollo de los estadios biológicos de *Diabrotica balteata* Lec. (Coleoptera: Chrysomelidae). *Ciencias de la Agricultura* 17:31-40.
- HEYER, W. AND B. CRUZ. 1986. Diferenciación sexual y determinación de los estadios biológicos de *Diabrotica balteata*, *Andrector ruficornis*, y *Systema basalis* (Coleoptera: Chrysomelidae). *Ciencias de la Agricultura* 27:43-50.
- HEYER, W. AND B. CRUZ. 1989. Möglichkeit der Geschlechterdetermination beim Blattkäfer *Diabrotica balteata* Lec. *Beitraege zur Entomologie* 39(2):391-392.
- HICKS, K. L. AND J. O. TAHVANAINEN. 1974. Niche differentiation by crucifer-feeding flea beetles (Coleoptera: Chrysomelidae). *The American Midland Naturalist* 91(2):406-423.
- HICKS, R. R. AND D. A. MUDRICK. 1994. 1993 Forest Health, a Status Report for West Virginia. West Virginia Department of Agriculture, Charleston, West Virginia. 68 pages.
- HICKS, S. D. 1944. Notes on some species of Coleoptera taken at Ojibway, Essex County, Ontario. *The Canadian Entomologist* 76:163.
- HICKS, S. D. 1945. Additional notes on Coleoptera taken in Essex County, Ontario. *The Canadian Entomologist* 77:214.
- HICKS, S. D. 1949. Striking abundance of a leaf beetle, *Calligrapha philadelphica* L. *The Canadian Field-Naturalist* 63(4):143.

Literature Cited

- HICKS, S. D. 1954. Occurrence of pupae of *Altica tombacina* Mann. under bark in British Columbia. The Coleopterists' Bulletin 8(1):18.
- HICKS, S. D. 1955a. Abundance of several species of Coleoptera in British Columbia. The Coleopterists' Bulletin 9(1): 11-12.
- HICKS, S. D. 1955b. Two forms of *Blepharida rhois* (Forst.). The Coleopterists' Bulletin 9(2):21-22.
- HICKS, S. D. 1965. The northern limits of several species of Coleoptera with special reference to their occurrence in the Ottawa district, Ontario. The Coleopterists' Bulletin 19:37-42.
- HIGHT, S. D., B. BLOSSEY, J. LAING, AND R. DECLERCK-FLOATE. 1995. Establishment of insect biological control agents from Europe against *Lythrum salicaria* in North America. Environmental Entomology 24(4):967-977.
- HILBURN, D. J. AND R. D. GORDON. 1989. Coleoptera of Bermuda. The Florida Entomologist 72(4):673-692.
- HILGENDORF, J. H. AND R. D. GOEDEN. 1981. Phytophagous insects reported from cultivated and weedy varieties of the sunflower, *Helianthus annuus* L., in North America. Bulletin of the Entomological Society of America 27(2): 102-108.
- HILGENDORF, J. H. AND R. D. GOEDEN. 1982. Phytophagous insects reported worldwide from the noxious weeds spiny clotbur, *Xanthium spinosum*, and cocklebur, *X. strumarium*. Bulletin of the Entomological Society of America 28(2):147-152.
- HILGENDORF, J. H. AND R. D. GOEDEN. 1983. Phytophagous insect faunas of spiny clotbur, *Xanthium spinosum*, and cocklebur, *Xanthium strumarium*, in southern California. Environmental Entomology 12(2):404-411.
- HILKER, M. AND T. MEINERS. 1999. Chemical cues mediating interactions between chrysomelids and parasitoids. Pages 197-215 in M. L. Cox (ed.). Advances in Chrysomelidae Biology 1. Backhuys Publishers, Leiden, The Netherlands.
- HILL, M. P. 1999. *Gratiana lutescens* (Boheman) (Coleoptera: Chrysomelidae: Cassidinae) reconsidered as a natural enemy of satansbos, *Solanum elaeagnifolium* Cavanilles (Solanaceae), in South Africa. African Entomology 7(2):177-181.
- HILL, M. P. AND P. E. HULLEY. 1995. Host-range extension by native parasitoids to weed biocontrol agents introduced to South Africa. Biological Control 5:297-302.
- HILL, M. P. AND I. G. OBERHOLZER. 2002. Laboratory host range testing of the flea beetle, *Pseudolampsis guttata* (LeConte) (Coleoptera: Chrysomelidae), a potential natural enemy for red water fern, *Azolla filiculoides* Lamarck (Pteridophyta: Azollaceae) in South Africa. The Coleopterists Bulletin 56(1):79-83.
- HILL, R. E. 1944 (1943). Potato insects and their control. Nebraska Agricultural Experiment Station, Annual Report 57: 52-54.
- HILL, R. E. 1945 (1944). Potato insects and their control. Nebraska Agricultural Experiment Station, Annual Report 58: 52-55.
- HILL, R. E. 1946. Influence of food plants on fecundity, larval development and abundance of the tuber flea beetle in Nebraska. University of Nebraska, College of Agriculture, Agricultural Experiment Station, Research Bulletin 143:1-16.
- HILL, R. E., A. HAGEN, AND * PETERS. 1967. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 17(30):677.
- HILL, R. E. AND Z. B. MAYO. 1980. Distribution and abundance of corn rootworm species as influenced by topography and crop rotation in eastern Nebraska. Environmental Entomology 9(1):122-127.
- HILL, R. E. AND H. D. TATE. 1942. Life history and habits of the potato flea beetle in western Nebraska. Journal of Economic Entomology 35(6):879-884.
- HILL, R. E. AND H. D. TATE. 1944. Potato flea beetle control in western Nebraska. Nebraska Agricultural Experiment Station Bulletin 361:1-23.
- HILTERHAUS, V. 1965. Biologisch-ökologische Untersuchungen an Blattkäfern der Gattungen *Lema* und *Gastroidea* (Chrysomelidae, Col.). (Ein Beitrag zur Agrarökologie). Zeitschrift für angewandte Zoologie 52(3):257-295.
- HINTZ, S. 1962a. Striped flea beetle (*Phyllotreta striolata*). Cooperative Economic Insect Report 12(32):887.
- HINTZ, S. 1962b. Corn rootworms (*Diabrotica* spp.). Cooperative Economic Insect Report 12(36):991.
- HINTZ, S. 1962c. Striped flea beetle (*Phyllotreta striolata*). Cooperative Economic Insect Report 12(39):1051.
- HINTZ, S. 1963a. Striped flea beetle (*Phyllotreta striolata*). Cooperative Economic Insect Report 13(26):707.
- HINTZ, S. 1963b. Elm calligrapha (*Calligrapha scalaris*). Cooperative Economic Insect Report 13(39):1151.
- HIPPA, H. AND S. KOPONEN. 1975. On damage caused by the species of *Galerucella* (Col., Chrysomelidae) on cloud-berry (*Rubus chamaemorus* L.) in Finland and northern Norway. Reports from the Kevo Subarctic Research Station 12:54-59.
- HIPPA, H. AND S. KOPONEN. 1986. Morphological, cytological, ecological and ethological evidence of reproductive isolation between *Galerucella nymphaeae* (L.) and *G. sagittariae* (Gyll.) (Coleoptera, Chrysomelidae) in Fennoscandia. Annales Entomologici Fennici 52:49-62.
- HIRSCHENBERGER, P. 1962. Elm leaf beetle (*Galerucella xanthomelaena*). Cooperative Economic Insect Report 12(34):955.
- HODSON, A. C. 1942. Biological notes on the basswood leaf-miner, *Baliosus ruber* (Weber). Journal of Economic Entomology 35(4):570-573.
- HODSON, W. E. H. 1929. The bionomics of *Lema melanopa*, L. (Criocerinae), in Great Britain. Bulletin of Entomologi-

- cal Research 20(1):5-14.
- HOEBEKE, E. R. 1980a. A chrysomelid beetle (*Chaetocnema concinna* (Marshall)). Cooperative Plant Pest Report 5(20):374.
- HOEBEKE, E. R. 1980b. A chrysomelid beetle (*Psylliodes affinis*). Cooperative Plant Pest Report 5(22):418.
- HOEBEKE, E. R. 1993. Establishment of *Urophora quadrifasciata* (Diptera: Tephritidae) and *Chrysolina quadrigemina* (Coleoptera: Chrysomelidae) in portions of eastern United States. Entomological News 104(3):143-152.
- HOEBEKE, E. R. AND A. G. WHEELER. 1983. Exotic insects reported new to northeastern United States and eastern Canada since 1970. Journal of the New York Entomological Society 91(3):193-222.
- HOEBEKE, E. R. AND A. G. WHEELER. 2003. *Sphaeroderma testaceum* (F.) (Coleoptera: Chrysomelidae), a Palearctic flea beetle new to North America. Proceedings of the Entomological Society of Washington 105(4):990-994.
- HOERNER, J. L. AND C. P. GILLETTE. 1928. The potato flea beetle. Colorado Experiment Station Bulletin 337:1-20.
- HOFFARD, W. H. AND R. L. ANDERSON. 1982. A guide to common insects, diseases, and other problems of black locust. United States Department of Agriculture, Forest Service, Southeastern Area, Forestry Report SA-FR 19:1-9.
- HOFFMAN, C. E. 1940a (1939). Morphology of the immature stages of some northern Michigan Donaciini (Chrysomelidae; Coleoptera). Papers of the Michigan Academy of Science, Arts, and Letters 25:243-290.
- HOFFMAN, C. E. 1940b. The relation of *Donacia* larvae (Chrysomelidae: Coleoptera) to dissolved oxygen. Ecology 21(2):176-183.
- HOFFMAN, C. E. 1940c. Limnological relationships of some northern Michigan Donaciini (Chrysomelidae; Coleoptera). Transactions of the American Microscopical Society 59(3):259-274.
- HOFFMAN, C. H. 1942. Annotated list of elm insects in the United States. United States Department of Agriculture, Miscellaneous Publication 466:1-20.
- HOFFMAN, R. L. 1997. The leaf beetle *Pseudolampsis guttata* (LeConte) in Virginia (Chrysomelidae: Alticinae). Banisteria 9:61-62.
- HOFMASTER, R. N. 1962. Colorado potato beetle (*Leptinotarsa decemlineata*). Cooperative Economic Insect Report 12(35):970.
- HOFMASTER, R. N. 1965a. A flea beetle (*Phyllotreta cruciferae*). Cooperative Economic Insect Report 15(41):1159.
- HOFMASTER, R. N. 1965b. Corn rootworms (*Diabrotica* spp.). Cooperative Economic Insect Report 15(43):1204.
- HOFMASTER, R. N. AND A. P. MORRIS. 1958. Cucumber beetles (*Diabrotica* spp.). Cooperative Economic Insect Report 8(39):834.
- HOGUE, C. L. 1993. Insects of the Los Angeles Basin. Second Edition. Natural History Museum of Los Angeles County, Los Angeles, California. 446 pages.
- HOGUE, S. M. 1970. Biosystematics of the Genus *Trirhabda* LeConte of America North of Mexico (Chrysomelidae: Coleoptera). Ph.D. Dissertation, University of Idaho. 212 pages.
- HOGUE, S. M. 1971. *Trirhabda*. Pages 193-198 in M. H. Hatch. The beetles of the Pacific Northwest. Part V: Rhipicerioidea, Sternoxi, Phytophaga, Rhynchophora, and Lamellicornia. University of Washington Publications in Biology, Volume 16.
- HOLDAWAY, F. G. 1941. Datura beetle *Lema trilineata* var. *californica* Schaeffer attacking eggplant and Irish potato. Proceedings of the Hawaiian Entomological Society 11(1):8.
- HOLDSWORTH, R. P. AND * BLAIR. 1961. Locust leaf miner (*Xenochalepus dorsalis*). Cooperative Economic Insect Report 11(34):796.
- HOLLOWAY, J. K. 1948. Biological control of Klamath weed – progress report. Journal of Economic Entomology 41:56-57.
- HOLLOWAY, J. K. 1954. Addendum. Page 1129 in L. Hopkins and L. A. Carruth. Insects associated with salt cedar in southern Arizona. Journal of Economic Entomology 47(6):1126-1129.
- HOLLOWAY, J. K. 1964. Projects in biological control of weeds. Pages 650-670 in P. DeBach and E. I. Schlinger (eds.). Biological Control of Insect Pests and Weeds. Chapman and Hall, Ltd., London.
- HOLLOWAY, J. K. AND C. B. HUFFAKER. 1951. The role of *Chrysolina gemellata* in the biological control of Klamath weed. Journal of Economic Entomology 44(2):244-247.
- HOLLOWAY, J. K. AND C. B. HUFFAKER. 1952. Insects to control a weed. United States Department of Agriculture, The Yearbook of Agriculture 1952:135-140.
- HOMAN, *. 1965. Western black flea beetle (*Phyllotreta pusilla*). Cooperative Economic Insect Report 15(34):966.
- HOOD, C. E. 1940. Life history and control of the imported willow leaf beetle. United States Department of Agriculture Circular 572:1-9.
- HOPKINS, A. D. 1891a. Department of Entomology. West Virginia Agricultural Experiment Station Report 3:145-180.
- HOPKINS, A. D. 1891b. Farm and garden insects, and experiments with remedies. West Virginia Agricultural Experiment Station Bulletin 14:65-79.
- HOPKINS, A. D. 1891c. Preliminary investigation of insect ravages, yellow locust. West Virginia Agricultural Experiment Station Bulletin 16:85-91.
- HOPKINS, A. D. 1893. Catalogue of West Virginia forest and shade tree insects. West Virginia Agricultural Experiment Station Bulletin 32:171-251.
- HOPKINS, A. D. 1896. Some notes on insect enemies of trees. The Canadian Entomologist 28(10):243-250.
- HOPKINS, A. D. 1897a. Report of the Entomological Department, part II. West Virginia Agricultural Experiment Station

Literature Cited

- Report 9:93-110.
- HOPKINS, A. D. 1897b. Some notes on insect enemies of trees. West Virginia Agricultural Experiment Station Report 9: 143-152.
- HOPKINS, A. D. AND W. E. RUMSEY. 1896. Practical entomology, insects injurious to farm and garden crops, the character of the injury, the insect causing it, the remedy, briefly and plainly stated. West Virginia Agricultural Experiment Station Bulletin 44:245-325.
- HOPKINS, J. D. AND A. J. MUELLER. 1983. Distribution of bean pod mottle virus in Arkansas soybean as related to the bean leaf beetle, *Cerotoma trifurcata*, (Coleoptera: Chrysomelidae) population. Environmental Entomology 12 (5):1564-1567.
- HOPKINS, L. AND L. A. CARRUTH. 1954. Insects associated with salt cedar in southern Arizona. Journal of Economic Entomology 47(6):1126-1129.
- HOPPING, R. 1899. Some notes on Coleoptera found on species of *Ceanothus*. Entomological News 10(6):162-165.
- HORN, G. H. 1889. A synopsis of the Halticini of Boreal America. Transactions of the American Entomological Society 16:163-320.
- HORN, G. H. 1892. The Eumolpini of Boreal America. Transactions of the American Entomological Society 19:195-234.
- HORN, G. H. 1893. The Galerucini of Boreal America. Transactions of the American Entomological Society 20:57-136.
- HORN, G. H. 1894. *Cassida nebulosa* Linn. Entomological News 5(5):146.
- HORNE, W. T. AND E. O. ESSIG. 1921. Plant disease and pest control. California Agricultural Experiment Station Circular 227:1-69.
- HORNING, D. S. AND W. F. BARR. 1970. Insects of Craters of the Moon National Monument, Idaho. University of Idaho, College of Agriculture, Miscellaneous Series 8:1-118.
- HORTON, D. R. 1989. Performance of a willow-feeding beetle, *Chrysomela knabi* Brown, as affected by host species and dietary moisture. The Canadian Entomologist 121:777-780.
- HORTON, D. R. AND J. L. CAPINERA. 1987a. Seasonal and host plant effects on parasitism of Colorado potato beetle by *Myiopharus doryphorae* (Riley) (Diptera: Tachinidae). The Canadian Entomologist 119:729-734.
- HORTON, D. R. AND J. L. CAPINERA. 1987b. Effects of plant diversity, host density, and host size on population ecology of the Colorado potato beetle (Coleoptera: Chrysomelidae). Environmental Entomology 16(4):1019-1026.
- HORTON, D. R. AND J. L. CAPINERA. 1990. Host utilization by Colorado potato beetle (Coleoptera: Chrysomelidae) in a potato/weed (*Solanum sarrachoides* Sendt.) system. The Canadian Entomologist 122:113-121.
- HORTON, D. R., J. L. CAPINERA, AND P. L. CHAPMAN. 1988. Local differences in host use by two populations of the Colorado potato beetle. Ecology 69(3):823-831.
- HOUSER, E. C. 1966. A leaf beetle (*Anomoea laticlavata*). Cooperative Economic Insect Report 16(29):707.
- HOUSER, E. C., G. W. THOMAS, AND F. E. WOOD. 1964. Bean leaf beetle (*Cerotoma trifurcata*). Cooperative Economic Insect Report 14(21):499.
- HOUSER, J. S. 1908. The more important insects affecting Ohio shade trees. Bulletin of the Ohio Agricultural Experiment Station 194:169-243.
- HOUSER, J. S. 1913. The locust leaf miner or locust hispa (*Chalepus dorsalis* Thunb.). Annual Report of the Ohio Horticultural Society 1913:29-32.
- HOUSER, J. S. 1918. Destructive insects affecting Ohio shade and forest trees. Bulletin of the Ohio Agricultural Experiment Station 332:161-487.
- HOUSER, J. S. AND W. V. BALDUF. 1925. The striped cucumber beetle. Bulletin of the Ohio Agricultural Experiment Station 388:239-364.
- HOWARD, L. O. 1894. The cottonwood leaf-beetle in New York. Insect Life 7(1):53.
- HOWARD, L. O. 1896 (1895). The shade-tree insect problem in the eastern United States. Yearbook of the United States Department of Agriculture 1895:361-384.
- HOWARD, L. O. 1898. Injury by the western flea-beetle, *Phyllotreta pusilla* Horn. United States Department of Agriculture, Division of Entomology, Bulletin (New Series) 10:92-93.
- HOWARD, L. O. 1899a. The principal insects affecting the tobacco plant. Yearbook of the United States Department of Agriculture, 1898:121-150.
- HOWARD, L. O. 1899b. Three insect enemies of shade trees. United States Department of Agriculture, Farmers' Bulletin 99:1-29.
- HOWARD, L. O. 1902. Notes from correspondence. United States Department of Agriculture, Division of Entomology, Bulletin (New Series) 38:108-110.
- HOWARD, L. O. 1905. The great elm leaf-beetle (*Monocesta coryli* Say). United States Department of Agriculture, Bureau of Entomology, Bulletin 54:81-82.
- HOWARD, L. O. 1917. A second importation of the European egg-parasite of the elm leaf-beetle. Journal of Economic Entomology 10:504-505.
- HOWARD, L. O. AND J. B. SMITH. 1895. The elm leaf beetle. Storrs Agricultural Experiment Station Bulletin 14:1-8.
- HOWDEN, H. F. AND G. B. VOGT. 1951. Insect communities of standing dead pine (*Pinus virginiana* Mill.). Annals of the Entomological Society of America 44:581-595.
- HOWE, W. L. AND B. W. GEORGE. 1966. Corn rootworms. Pages 367-383 in C. N. Smith, Insect Colonization and Mass Production. Academic Press, New York. 618 pages.

- HOWE, W. L. AND A. M. RHODES. 1976. Phytophagous insect associations with *Cucurbita* in Illinois. *Environmental Entomology* 5(4):747-751.
- HOWE, W. L., J. R. SANBORN, AND A. M. RHODES. 1976. Western corn rootworm adult and spotted cucumber beetle associations with *Cucurbita* and cucurbitacins. *Environmental Entomology* 5(6):1043-1048.
- HOWE, W. L. AND E. ZDARKOVA. 1971. A simple method for continuous rearing of the striped cucumber beetle. *Journal of Economic Entomology* 64(5):1337.
- HOWE, W. L., E. ZDARKOVA, AND A. M. RHODES. 1972. Host preferences of *Acalymma vittatum* (Coleoptera: Chrysomelidae) among certain Cucurbitaceae. *Annals of the Entomological Society of America* 65(2):372-374.
- HSIAO, T. H. 1974. Chemical influence on feeding behavior of *Leptinotarsa* beetles. Pages 237-248 in L. B. Browne [ed.]. *Experimental Analysis of Insect Behavior*. Springer-Verlag, Berlin, Germany.
- HSIAO, T. H. 1978. Host plant adaptations among geographic populations of the Colorado potato beetle. *Entomologia Experimentalis et Applicata* 24:437-447.
- HSIAO, T. H. 1982. Geographic variation and host plant adaptation of the Colorado potato beetle. Pages 315-324 in J. H. Visser and A. K. Minks (eds.). *Proceedings of the 5th International Symposium on Insect-Plant Relationships*, Wageningen, 1982.
- HSIAO, T. H. 1985. Ecophysiological and genetic aspects of geographic variations of the Colorado potato beetle. *Massachusetts Agricultural Experiment Station, Research Bulletin* 704:63-77.
- HSIAO, T. H. 1986. Specificity of certain chrysomelid beetles for Solanaceae. Pages 345-363 in W. G. D'Arcy. *Solanaceae Biology and Systematics*. Columbia University Press, New York.
- HSIAO, T. H. 1988. Host specificity, seasonality and bionomics of *Leptinotarsa* beetles. Pages 582-599 in P. Jolivet, E. Petitpierre, and T. H. Hsiao (eds.). *Biology of Chrysomelidae*. Kluwer Academic Publishers, The Netherlands.
- HSIAO, T. H. 1989. Host plant affinity in relation to phylogeny of *Leptinotarsa* beetles. *Entomographia* 6:413-422.
- HSIAO, T. H. AND G. FRAENKEL. 1968a. The role of secondary substances in the food specificity of the Colorado potato beetle. *Annals of the Entomological Society of America* 61(2):485-493.
- HSIAO, T. H. AND G. FRAENKEL. 1968b. Selection and specificity of the Colorado potato beetle for solanaceous and nonsolanaceous plants. *Annals of the Entomological Society of America* 61(2):493-503.
- HSIAO, T. H. AND C. HSIAO. 1983. Chromosomal analysis of *Leptinotarsa* and *Labidomera* species (Coleoptera: Chrysomelidae). *Genetica* 60(2):139-150.
- HUBBARD, H. G. 1885. *Insects affecting the orange*. United States Government Printing Office, Washington, D.C. 227 pages.
- HUBER, R. T. 1966. Three-lined potato beetle (*Lema trilineata*). *Cooperative Economic Insect Report* 16(19):409.
- HUBER, R. T. AND * WHITE. 1965. Pale-striped flea beetle (*Systema blanda*). *Cooperative Economic Insect Report* 15(25):632.
- HUCKETT, H. C. 1929a. Cucumber beetles. New York State Agricultural Experiment Station, Circular 113:1-8.
- HUCKETT, H. C. 1929b. Control measures for cucumber beetles. New York State Agricultural Experiment Station, Technical Bulletin 148:1-82.
- HUCKETT, H. C. 1932.. The potato flea beetle. New York State Agricultural Experiment Station, Circular 126 (reprinted):1-5.
- HUDSON, M., J. LAFRANCE, AND J. P. PERRON. 1964. Field and vegetable crop insects in southwestern Quebec in 1964. *The Canadian Insect Pest Review* 42(9):201-202.
- HUFFAKER, C. B. 1959. Biological control of weeds with insects. *Annual Review of Entomology* 4:251-276.
- HUGUENIN, J. C. 1914. Notes on *Calligrapha sigmoidea* Lec. (Coleop., Chrysomelidae). *Entomological News* 25(9):419-420.
- HUMPHREY, *. 1973. Colorado potato beetle (*Leptinotarsa decemlineata*), Oregon. *Cooperative Economic Insect Report* 23(29):467.
- HUNGERFORD, H. B. 1945. The sweetpotato leaf beetle *Typophorus viridicyaneus* (Crotch) in Kansas. *Journal of the Kansas Entomological Society* 18(4):154-155.
- HUNT, T. N. AND J. R. BAKER (eds.). 1982. *Insect and Related Pests of Field Crops. Some Important, Common and Potential Pests in North Carolina*. The North Carolina Agricultural Extension Service, Raleigh, North Carolina. 214 pages.
- HUNTER, W. D., F. C. PRATT, AND J. D. MITCHELL. 1912. The principal cactus insects of the United States. United States Department of Agriculture, Bureau of Entomology, Bulletin 113:1-71.
- HUTCHINS, R. E. 1953. Summary of insect conditions – 1952, Mississippi. *Cooperative Economic Insect Report* 3(6):83-87.
- HUTSON, R. 1933. Insect pests of stone fruits in Michigan. Michigan State College, Agricultural Experiment Station, Special Bulletin 244:1-40.
- HUTSON, R. 1937. Chewing insects affecting garden crops. Michigan State College, Extension Bulletin 180:1-44.
- HUTSON, R. 1953. Spinach flea beetle (*Disonycha xanthomelas*). *Cooperative Economic Insect Report* 3(31):573.
- HUTSON, R. 1955. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). *Cooperative Economic Insect Report* 5(38):913.
- HUTSON, R. 1956. Pale-striped flea beetle (*Systema blanda*). *Cooperative Economic Insect Report* 6(29):693.
- HUTSON, R. 1957a. A tortoise beetle (*Deloyala vittata*). *Cooperative Economic Insect Report* 7(27):533.

Literature Cited

- HUTSON, R. 1957b. Flea beetles, Michigan. Cooperative Economic Insect Report 7(27):534.
- HYCHE, L. L. 1996. The sycamore leaf beetle, a guide to recognition and habits in Alabama. Alabama Agricultural Experiment Station Bulletin 630:1-12.
- HYLAND, K. E. 1954a. Potato flea beetle (*Epitrix cucumeris*). Cooperative Economic Insect Report 4(25):542.
- HYLAND, K. E. 1954b. Potato flea beetle (*Epitrix cucumeris*). Cooperative Economic Insect Report 4(26):575.
- IGRC, J. 1987. Proučavanje zlatice *Zygogramma suturalis* Fabricius (Coleoptera, Chrysomelidae) – potencijalnog agensa biološkog suzbijanja korova *Ambrosia artemisiifolia* L. Poljoprivredna znanstvena smotra 76-77:31-56.
- IGRC, J., C. J. DELOACH, AND V. ZLOF. 1995. Release and establishment of *Zygogramma suturalis* F. (Coleoptera: Chrysomelidae) in Croatia for control of common ragweed (*Ambrosia artemisiifolia* L.). Biological Control 5: 203-208.
- IKEHARA, *. 1968. Hawaii insect report, fruits, tobacco flea beetle (*Epitrix hirtipennis*). Cooperative Economic Insect Report 18(40):952.
- ILLINGWORTH, J. F. 1938. *Lema nigrovittata* Guerin. Proceedings of the Hawaiian Entomological Society 10(1):11.
- ISAKSON, O. W. AND * PARSON. 1966. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 16(25):573.
- ISELY, D. 1920. Grape-vine flea-beetles. United States Department of Agriculture Bulletin 901:1-27.
- ISELY, D. 1927. The striped cucumber beetle. University of Arkansas, Agricultural Experiment Station, Bulletin 216: 1-36.
- ISELY, D. 1929a. The southern corn rootworm. University of Arkansas, Agricultural Experiment Station, Bulletin 232: 1-31.
- ISELY, D. 1929b. The bean leaf-beetle. University of Arkansas, Agricultural Experiment Station, Bulletin 246:51.
- ISELY, D. 1930a. *Fidia longipes* as a grape pest. Journal of Economic Entomology 23:95-97.
- ISELY, D. 1930b. The biology of the bean leaf-beetle. University of Arkansas, Agricultural Experiment Station, Bulletin 248:1-20.
- ISELY, D. 1935. Variations in the seasonal history of the Colorado potato beetle. Journal of the Kansas Entomological Society 8(4):142-144.
- ISELY, D. 1942. The grape rootworm. University of Arkansas Agricultural Experiment Station Bulletin 426:1-26.
- ISHIHARA, M., T. HAYASHI, AND T. OHGUSHI. 1999. Life cycle of the willow leaf beetle, *Plagioderia versicolora* (Coleoptera: Chrysomelidae) in Ishikari (Hokkaido, Japan). Entomological Science 2(1):57-60.
- ISMAN, M. B., S. S. DUFFEY, AND G. G. E. SCUDDER. 1977. Cardenolide content of some leaf- and stem-feeding insects on temperate North American milkweeds (*Asclepias* spp.). Canadian Journal of Zoology 55(6):1024-1028.
- ISONO, M. 1988. Differentiation in life history pattern and oviposition behavior, and thelytoky in *Demotina* and *Hyperaxis* beetles (Coleoptera, Chrysomelidae) in western Japan. Kontyû, Tokyo 56(2):402-409.
- IVES, W. G. H. AND H. R. WONG. 1988. Tree and shrub insects of the prairie provinces. Canadian Forestry Service, Northern Forestry Centre, Information Report NOR-X-292:1-327.
- JACKMAN, J. A. 1976. A tortoise beetle, *Hemisphaerota cyanea*, on palms in Texas. The Southwestern Entomologist 1(4):181-183.
- JACKMAN, J. A. 1978a. A chrysomelid beetle (*Nodonota tristis*). Cooperative Plant Pest Report 3(48-52):647.
- JACKMAN, J. A. 1978b. A chrysomelid beetle (*Diabrotica tibialis*). Cooperative Plant Pest Report 3(48-52):676.
- JACKMAN, J. A. 1979a. Banded cucumber beetle (*Diabrotica balteata*). Cooperative Plant Pest Report 4(2):29.
- JACKMAN, J. A. 1979b. A chrysomelid beetle (*Diabrotica tibialis*). Cooperative Plant Pest Report 4(2):31.
- JACKMAN, J. A. 1979c. Sweetpotato leaf beetle (*Typophorus nigratus viridicyaneus*). Cooperative Plant Pest Report 4(2):35.
- JACKMAN, J. A. 1979d. A chrysomelid beetle (*Disonycha glabrata*). Cooperative Plant Pest Report 4(5-6):62.
- JACKMAN, J. A. 1979e. Southern corn rootworm (*Diabrotica undecimpunctata howardi*). Cooperative Plant Pest Report 4(9):93.
- JACKMAN, J. A. 1979f. Threelined potato beetle (*Lema trilineata*). Cooperative Plant Pest Report 4(11):111.
- JACKMAN, J. A. 1979g. A chrysomelid beetle (*Altica foliacea*). Cooperative Plant Pest Report 4(11):115.
- JACKMAN, J. A. 1979h. Banded cucumber beetle (*Diabrotica balteata*). Cooperative Plant Pest Report 4(42):812.
- JACKMAN, J. A. 1979i. A chrysomelid beetle (*Colaspis brunnea*). Cooperative Plant Pest Report 4(42):812.
- JACKMAN, J. A. 1979j. A chrysomelid beetle (*Disonycha glabrata*). Cooperative Plant Pest Report 4(42):812.
- JACKMAN, J. A. 1979k. A chrysomelid beetle (*Altica foliacea*). Cooperative Plant Pest Report 4(42):812.
- JACKMAN, J. A. 1979l. A chrysomelid beetle (*Disonycha glabrata*). Cooperative Plant Pest Report 4(42):819.
- JACKSON, *. 1963. Striped flea beetle (*Phyllotreta striolata*). Cooperative Economic Insect Report 13(24):646.
- JACKSON, *. 1969. Sweetpotato flea beetle (*Chaetocnema confinis*). Cooperative Economic Insect Report 19(20):346.
- JACKSON, J. J. 1997. Biology of *Aphthona nigriscutis* (Coleoptera: Chrysomelidae) in the laboratory. Annals of the Entomological Society of America 90(4):433-437.
- JACOBSON, J. W. AND T. H. HSIAO. 1983. Isozyme variation between geographic populations of the Colorado potato beetle, *Leptinotarsa decemlineata* (Coleoptera: Chrysomelidae). Annals of the Entomological Society of America 76 (2):162-166.
- JACQUES, R. L. 1985. The potato beetles of Florida (Coleoptera: Chrysomelidae). Florida Department of Agriculture and Consumer Services, Division of Plant Industry, Entomology Circular 271:1-2.

- JACQUES, R. L. 1987. Flea beetles of the genus *Systema* in Florida (Coleoptera: Chrysomelidae). Florida Department of Agriculture and Consumer Services, Division of Plant Industry, Entomology Circular 295:1-2.
- JACQUES, R. L. 1988. The potato beetles. *Flora & Fauna Handbook* 3:1-144.
- JACQUES, R. L. AND D. C. PETERS. 1969. The red-headed flea beetle on corn in Iowa. *Proceedings of the North Central Branch, Entomological Society of America* 24(1):43.
- JACQUES, R. L. AND D. C. PETERS. 1971. Biology of *Systema frontalis*, with special reference to corn. *Journal of Economic Entomology* 64(1):135-138.
- JAMES, *. 1960. A leaf beetle (*Calligrapha sigmoides* [sic]). *Cooperative Economic Insect Report* 10(23):471.
- JANES, R. L. 1963. Leaf beetles. *Cooperative Economic Insect Report* 13(27):761.
- JANSEN, W. P. AND R. STAPLES. 1971. Specificity of transmission of cowpea mosaic virus by species within the subfamily Galerucinae, family Chrysomelidae. *Journal of Economic Entomology* 64(2):365-367.
- JANSSON, R. K., F. M. GHIDIU, AND J. H. LASHOMB. 1988. Effects of dicofol on survivorship and oviposition of Colorado potato beetle (Coleoptera: Chrysomelidae) and on field plant protection. *Journal of Economic Entomology* 81(3):887-891.
- JANSSON, R. K., A. E. ZITZMAN, AND J. H. LASHOMB. 1989. Effects of food plant and diapause on adult survival and fecundity of Colorado potato beetle (Coleoptera: Chrysomelidae). *Environmental Entomology* 18(2):291-297.
- JACQUES, H. E. 1951. How to Know the Beetles. Wm. C. Brown Company Publishers, Dubuque, Iowa. 372 pages.
- JEFFREY, *. 1957. Watercress leaf beetle (*Phaedon aeruginosus*). *Cooperative Economic Insect Report* 7(35):711.
- JENKINS, J. N., F. G. MAXWELL, AND H. N. LAFEVER. 1966. The comparative preference of insects for glanded and glandless cottons. *Journal of Economic Entomology* 59(2):352-356.
- JENKINS, L. E. 1966. Colorado potato beetle (*Leptinotarsa decemlineata*). *Cooperative Economic Insect Report* 16(22):486.
- JENKS, G. E. 1940. Dwarfs that live in their hats. *Nature Magazine* 33:337-340.
- JENSEN, G. L. 1977. A chrysomelid beetle (*Trirhabda attenuata*). *Cooperative Plant Pest Report* 2(28):508.
- JERMY, T. 1961. On the nature of the oligophagy in *Leptinotarsa decemlineata* Say (Coleoptera: Chrysomelidae). *Acta Zoologica Academiae Scientiarum Hungaricae* 7:119-132.
- JERMY, T. 1994. Hypotheses on oligophagy: how far the case of the Colorado potato beetle supports them. Pages 127-139 in P. H. Jolivet, M. L. Cox, and E. Petitpierre (eds.). *Novel Aspects of the Biology of Chrysomelidae*. Kluwer Academic Publishers, The Netherlands.
- JEWETT, H. H. 1926. The tobacco flea-beetle. *Kentucky Agricultural Experiment Station Bulletin* 266:49-69.
- JEWETT, H. H. 1927. The striped cucumber beetle. *Kentucky Agricultural Experiment Station Circular* 37:19-34.
- JEWETT, H. H. 1929. Potato flea-beetles. *Kentucky Agricultural Experiment Station Bulletin* 297:281-301.
- JEWETT, H. H. 1932. The striped cucumber beetle. University of Kentucky, College of Agriculture, Extension Division, Circular 262:1-8.
- JEWETT, H. H. 1955. Controlling tobacco insects. *Kentucky Agricultural Extension Service Circular* 525:1-38.
- JOHANNSEN, O. A. 1912. Insect notes for 1912. *Maine Agricultural Experiment Station Bulletin* 207:431-466.
- JOHANNSEN, O. A. 1913. Potato flea-beetle. *Maine Agricultural Experiment Station Bulletin* 211:37-50.
- JOHANNSEN, O. A. AND E. M. PATCH. 1911. Insect notes for 1911. *Maine Agricultural Experiment Station Bulletin* 195:229-248.
- JOHANSEN, C. A. 1957. Western spotted cucumber beetle (*Diabrotica undecimpunctata*). *Cooperative Economic Insect Report* 7(34):682.
- JOHANSEN, C. A. 1958. Western spotted cucumber beetle (*Diabrotica undecimpunctata*). *Cooperative Economic Insect Report* 8(32):691.
- JOHNSON, * AND * LAHRING. 1963. Cereal leaf beetle (*Oulema melanopa*). *Cooperative Economic Insect Report* 13(21):546.
- JOHNSON, * AND * WILLIAMS. 1966. Flea beetles. *Cooperative Economic Insect Report* 16(22):484.
- JOHNSON, C. W. 1927. The insect fauna with reference to the flora and other biological features. Pages 1-247 in W. Proctor. *Biological Survey of the Mount Desert Region, Part I*. The Wistar Institute of Anatomy and Biology, Philadelphia, Pennsylvania.
- JOHNSON, F. 1908. Grape root-worm investigations in 1907. *United States Department of Agriculture, Bureau of Entomology, Bulletin* 68(6):61-68.
- JOHNSON, F. AND A. G. HAMMAR. 1910. The grape root-worm, with especial reference to investigations in the Erie grape belt from 1907 to 1909. *United States Department of Agriculture, Bureau of Entomology, Bulletin* 89:1-100.
- JOHNSON, H. L. 1915. Coleoptera found in the vicinity of Meriden, Connecticut. *Entomological News* 26:307-319.
- JOHNSON, H. L. 1916. Additions to the Coleoptera of Meriden, Connecticut. *Entomological News* 27:112-124.
- JOHNSON, N. D., S. A. BRAIN, AND P. R. EHRLICH. 1985. The role of leaf resin in the interaction between *Eriodictyon californicum* (Hydrophyllaceae) and its herbivore, *Trirhabda diducta* (Chrysomelidae). *Oecologia (Berlin)* 66:106-110.
- JOHNSON, N. D., C. C. CHU, P. R. EHRLICH, AND H. A. MOONEY. 1984. The seasonal dynamics of leaf resin, nitrogen, and herbivore damage in *Eriodictyon californicum* and their parallels in *Diplacus aurantiacus*. *Oecologia* 61(3):398-402.
- JOHNSON, P. M. AND A. M. BALLINGER. 1916. Life-history studies of the Colorado potato beetle. *Journal of Agricultural Research* 5(20):917-926.

Literature Cited

- JOHNSON, T. B., F. T. TURPIN, AND M. K. BERGMAN. 1984. Effect of foxtail infestation on corn rootworm larvae (Coleoptera: Chrysomelidae) under two corn-planting dates. *Environmental Entomology* 13(5):1245-1248.
- JOHNSON, T. E. 1968a. Flea beetles (*Systema* spp.). Cooperative Economic Insect Report 18(28):634.
- JOHNSON, T. E. 1968b. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 18(28):639.
- JOHNSON, T. E. 1968c. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 18(28):640.
- JOHNSON, T. E. 1968d. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 18(28):642.
- JOHNSON, T. E. 1968e. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 18(29):667.
- JOHNSON, T. E. 1968f. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 18(29):672.
- JOHNSON, T. E. 1968g. Western potato flea beetle (*Epitrix subcrinita*). Cooperative Economic Insect Report 18(29):672.
- JOHNSON, T. E. 1968h. Sweetpotato flea beetle (*Chaetocnema confinis*). Cooperative Economic Insect Report 18(30):698.
- JOHNSON, T. E. 1968i. Flea beetles. Cooperative Economic Insect Report 18(30):700.
- JOHNSON, T. E. 1968j. A flea beetle (*Phyllotreta albionica*). Cooperative Economic Insect Report 18(30):700.
- JOHNSON, T. E. 1968k. A flea beetle (*Systema taeniata*). Cooperative Economic Insect Report 18(31):724.
- JOHNSON, T. E. 1968l. A flea beetle (*Systema taeniata*). Cooperative Economic Insect Report 18(31):730.
- JOHNSON, T. E. 1969a. A flea beetle (*Systema taeniata*). Cooperative Economic Insect Report 19(25):451.
- JOHNSON, T. E. 1969b. A flea beetle (*Systema taeniata*). Cooperative Economic Insect Report 19(27):494.
- JOHNSON, T. E. 1969c. A flea beetle (*Systema taeniata*). Cooperative Economic Insect Report 19(27):495.
- JOHNSON, T. E. 1969d. A flea beetle (*Systema taeniata*). Cooperative Economic Insect Report 19(31):599.
- JOHNSON, T. E. 1969e. A flea beetle (*Phyllotreta albionica*). Cooperative Economic Insect Report 19(34):665.
- JOHNSON, T. E. 1970. A flea beetle (*Systema taeniata*). Cooperative Economic Insect Report 20(26):425.
- JOHNSON, T. E. AND * BURCHETT. 1970a. A flea beetle (*Systema taeniata*). Cooperative Economic Insect Report 20(28):476.
- JOHNSON, T. E. AND * BURCHETT. 1970b. A flea beetle (*Systema taeniata*). Cooperative Economic Insect Report 20(28):477.
- JOHNSON, T. E. AND A. E. PARSHALL. 1968. Flea beetles (*Systema* spp.). Cooperative Economic Insect Report 18(30):694.
- JOHNSON, W. C. 1956. Flea beetles. Cooperative Economic Insect Report 6(24):556.
- JOHNSON, W. C. 1957. Summary of insect conditions – 1956, Georgia. Cooperative Economic Insect Report 7(9):158-161.
- JOHNSON, W. C. 1959. Summary of insect conditions – 1958, Georgia. Cooperative Economic Insect Report 9(11):177-180.
- JOHNSON, W. G. 1899. [Untitled]. *Proceedings of the Entomological Society of Washington* 4(4):398.
- JOHNSON, W. T. AND H. H. LYON. 1991. *Insects that Feed on Trees and Shrubs*, Second Edition, Revised. Comstock Publishing Associates, Ithaca, New York. 560 pages.
- JOLIVET, P. 1948a. Introduction à la biologie des *Timarcha* (Col., Chrysomelidae). *Miscellanea Entomologica* 45(1):1-32.
- JOLIVET, P. 1948b. Les Orsodacnidae de la faune française (Col., Orsodacnidae). *Miscellanea Entomologica* 45(3-4):33-46.
- JOLIVET, P. 1948c. Contribution à l'étude des *Americanotimarcha* n. subg. (Col. Chrysomelidae). *Bulletin du Musée Royal d'Histoire Naturelle de Belgique* 24(43):1-11.
- JOLIVET, P. 1950. Contribution à l'étude des *Microthecla* Stål (Coleoptera Chrysomelidae). *Institute Royal des Sciences Naturelles de Belgique, Bulletin* 26(48):1-27.
- JOLIVET, P. 1951a. Contribution à l'étude du genre *Gastrophysa* Chevrolat (Coleoptera Chrysomelidae) (1re note). *Institute Royal des Sciences Naturelles de Belgique, Bulletin* 27(9):1-11.
- JOLIVET, P. 1951b. Contribution à l'étude du genre *Gastrophysa* Chevrolat (Coleoptera Chrysomelidae) (3me note). *Institute Royal des Sciences Naturelles de Belgique, Bulletin* 27(21):1-47.
- JOLIVET, P. 1971. Quelques remarques à propos de la plante-hôte des *Platycorynus* Chevrolat en Thaïlande (Col. Chrysomelidae Eumolpinae). *Bulletin Mensuel de la Société Linnéenne de Lyon* 40(7):189-195.
- JOLIVET, P. 1975. Une excursion entomologique à l'Île de Quelpart (Cheju-do) et découverte d'une espèce nouvelle pour la Corée de *Chrysolina* Motschulsky [sic] (Col. Chrysomelidae) réflexions sur la plantagophilie. *Bulletin Mensuel de la Société Linnéenne de Lyon* 44:57-64, 72-81.
- JOLIVET, P. 1976. Notes préliminaires sur la biologie des *Timarcha* du Pacifique Nord Occidental Américain (*Americanotimarcha* Jolivet) (Coleoptera Chrysomelidae). *Cahiers du Pacifique* 19:153-165.
- JOLIVET, P. 1977. Sélection trophique chez les Eupoda (Coleoptera Chrysomelidae). *Bulletin de la Société Linnéenne de Lyon* 46(9):321-336.
- JOLIVET, P. 1978. Sélection trophique chez les Clytrinae, Cryptocephalinae et Chlamisinae (Camptosoma) et les Lamprosomatinae (Cyclica) (Coleoptera Chrysomelidae). *Acta Zoologica et Pathologica Antverpiensia* 70:167-200.
- JOLIVET, P. 1979a. Les Chrysomelidae (Coleoptera) des *Citrus* et apparentés (Rutaceae) en zone tempérée et tropicale. *Bulletin Mensuel de la Société Linnéenne de Lyon* 48(4):197-200, 249-256.
- JOLIVET, P. 1979b. Réflexions sur l'écologie, l'origine et la distribution des Chrysomélides (Col.) des Îles Mascareignes, Océan Indien, avec la description de deux espèces nouvelles. *Bulletin Mensuel de la Société Linnéenne de Lyon* 48:524-528, 606-608, 641-649.

- JOLIVET, P. 1982. Les Eumolpinae (Col. Chrysomelidae) des Apocynaceae et des Asclepiadaceae (Gentianales). Bulletin Mensuel de la Société Linnéenne de Lyon 51(7):214-222.
- JOLIVET, P. 1987a. Aperçu de la sélection trophique chez les Galerucinae. Etude par genre (Coleoptera Chrysomelidae). Bulletin et Annales de la Société royale belge d'Entomologie 123:283-307.
- JOLIVET, P. 1987b. Sélection trophique chez les Megascelinae et les Eumolpinae (Cyclica) (Coleoptera Chrysomelidae). Bulletin Mensuel de la Société Linnéenne de Lyon 56(6):199-208, 217-240.
- JOLIVET, P. 1988a. Food habits and food selection of Chrysomelidae. Bionomic and evolutionary perspectives. Pages 1-24 in P. Jolivet, E. Petitpierre, and T. H. Hsiao (eds.). Biology of Chrysomelidae. Kluwer Academic Publishers, The Netherlands.
- JOLIVET, P. 1988b. Sélection trophique chez les Cassidinae (Coleoptera Chrysomelidae). Bulletin Mensuel de la Société Linnéenne de Lyon 57(9):301-320.
- JOLIVET, P. 1989a. A propos des *Timarcha* nord-américains (Col. Chrysomelidae). L'Entomologiste 45(1):27-34.
- JOLIVET, P. 1989b. Un genre en danger de mort: *Timarcha*. L'Entomologiste 45(6):301-310.
- JOLIVET, P. 1989c. Sélection trophique chez les Hispinae (Coleoptera Chrysomelidae Cryptostoma). Bulletin Mensuel de la Société Linnéenne de Lyon 58(9):297-317.
- JOLIVET, P. 1990. Distribution et plantes-hôtes de *Chrysolina staphylea* (Linné, 1758). Bulletin et Annales de la Société royale belge d'Entomologie 126:123-130.
- JOLIVET, P. 1991a. Sélection trophique chez les Alticinae (Coleoptera Chrysomelidae). Bulletin Mensuel de la Société Linnéenne de Lyon 60:26-40, 53-72.
- JOLIVET, P. 1991b. Le doryphore menace l'Asie *Leptinotarsa decemlineata* Say 1824 (Col. Chrysomelidae). L'Entomologiste 47(1):29-48.
- JOLIVET, P. 1992. Contribution à la taxonomie, la distribution et la biologie des *Chrysolina* nord-américains (Col. Chrysomelidae). L'Entomologiste 48(1):29-51.
- JOLIVET, P. 1994. Dernières nouvelles de la progression du doryphore: *Leptinotarsa decemlineata* (Say, 1824) (Col. Chrysomelidae). L'Entomologiste 50(2):105-111.
- JOLIVET, P. 1995a. Réflexions sur les plantes-hôtes des chrysomélides (Col.). L'Entomologiste 51(2):77-93.
- JOLIVET, P. 1995b. A status report on the species of *Timarcha* (Coleoptera: Chrysomelidae). Insecta Mundi 9(1-2):153-154.
- JOLIVET, P. 1998a. Far Eastern Entomology. Chrysomela Newsletter 36:8-10.
- JOLIVET, P. 1998b. Host plants of the Entomoscelina (Col. Chrysomelidae Chrysomelinae). Pages 125-136 in M. Biondi, M. Daccordi, and D. G. Furth (eds.). Proceedings of the Fourth International Symposium of the Chrysomelidae, Proceedings of a Symposium (30 August, 1996, Florence, Italy) XX International Congress of Entomology. Museo Regionale di Scienze Naturali, Torino, Italy.
- JOLIVET, P. 1998c. Les nouveaux envahisseurs ou les chrysomélides voyageurs (Col.). L'Entomologiste 54(1):33-44.
- JOLIVET, P. 2001. Vers la mondialisation des Chrysomélides? L'Entomologiste 57(3-4):123-141.
- JOLIVET, P. 2003. Subaquatic Chrysomelidae. Pages 303-332 in D. G. Furth (ed.). Special Topics in Leaf Beetle Biology, Proceedings of the Fifth International Symposium on the Chrysomelidae, 25-27 August 2000, Iguassu Falls, Brazil, XXI International Congress of Entomology. Pensoft Series Faunistica No. 29. Pensoft Publishers, Sofia, Bulgaria.
- JOLIVET, P. AND T. J. HAWKESWOOD. 1995. Host-plants of Chrysomelidae of the World, an Essay about the Relationships between the Leaf-beetles and their Food-plants. Backhuys Publishers, Leiden, The Netherlands. 281 pages.
- JOLIVET, P. AND E. PETITPIERRE. 1973. Plantes-hôtes connues des *Timarcha* Latreille (Col. Chrysomelidae). Bulletin de la Société entomologique de France 78:9-25.
- JOLIVET, P. AND E. PETITPIERRE. 1976a. Les plantes-hôtes connues des *Chrysolina* (Col. Chrysomelidae) essai sur les types de sélection trophique. Annales de la Société entomologique de France (N. S.) 12(1):123-149.
- JOLIVET, P. AND E. PETITPIERRE. 1976b. Sélection trophique et evolution chromosomique chez les Chrysomelinae (Col. Chrysomelidae). Acta Zoologica et Pathologica Antverpiensia 66:59-90.
- JOLIVET, P. AND E. PETITPIERRE. 1980. Biology of Chrysomelidae (Coleoptera). Butlletí de la Institució Catalana d'Història Natural (Sec. Zool.) 4:105-136.
- JOLIVET, P. AND E. PETITPIERRE. 1992. Notes on *Timarcha*. Chrysomela 26:2.
- JOLIVET, P., E. PETITPIERRE, AND M. DACCORDI. 1986. Les plantes-hôtes des Chrysomelidae. Quelques nouvelles précisions et additions (Coleoptera). Nouvelle Revue d'Entomologie (Nouvelle Série) 3(3):341-357.
- JOLIVET, P. AND K. K. VERMA. 2002. Biology of Leaf Beetles. Intercept Ltd., Andover, Hampshire, United Kingdom. 332 pages.
- JONES, *. 1963. Northern corn rootworm (*Diabrotica longicornis*). Cooperative Economic Insect Report 13(43):1263.
- JONES, *. 1969. Cereal leaf beetle (*Oulema melanopus*). Cooperative Economic Insect Report 19(37):725.
- JONES, E. W. 1944. Biological studies of two potato flea beetles in eastern Washington. Journal of Economic Entomology 37(1):9-12.
- JONES, G. D. 1941. A new grape insect in Missouri. Journal of Economic Entomology 34(2):321.
- JONES, G. D. AND J. R. COPPEDGE. 2000. Foraging resources of adult Mexican corn rootworm (Coleoptera: Chrysomelidae) in Bell County, Texas. Journal of Economic Entomology 93(3):636-643.

Literature Cited

- JONES, P. A. 1965. Flea beetles. Cooperative Economic Insect Report 15(28):749.
- JONES, P. A. 1966a. Flea beetles. Cooperative Economic Insect Report 16(30):724.
- JONES, P. A. 1966b. Western corn rootworm (*Diabrotica virgifera*). Cooperative Economic Insect Report 16(34):831.
- JONES, P. A. 1967. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 17(27):589.
- JONES, P. A. 1972. A chrysomelid beetle (*Galeruca ruidis*). Cooperative Economic Insect Report 22(36):599.
- JONES, P. A. AND * NEARMAN. 1965. A flea beetle (*Disonycha punctigera*). Cooperative Economic Insect Report 15(34):958.
- JONES, P. A. AND R. J. WALSTROM. 1966. Flea beetles. Cooperative Economic Insect Report 16(29):696.
- JONES, S. C. 1959. Western spotted cucumber beetle (*Diabrotica undecimpunctata*). Cooperative Economic Insect Report 9(34):775.
- JONES, T. H. 1915. Insects affecting vegetable crops in Porto Rico. Bulletin of the United States Department of Agriculture 192:1-11.
- JONES, T. H. 1916. The eggplant tortoise beetle. United States Department of Agriculture Bulletin 422:1-8.
- JONES, W. W. AND H. BRISLEY. 1925. Field notes concerning a few Arizona Hispinae. The Pan-Pacific Entomologist 1(4):174-175.
- JORDAN, C. R. 1952. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 2(3):39.
- JORDAN, C. R., C. M. BECKHAM, M. DUPREE, AND L. W. MORGAN. 1953. Summary of insect conditions – 1952, Georgia. Cooperative Economic Insect Report 3(6):80-83.
- JORDAN, T. 1997. Host specificity of *Longitarsus quadriguttatus* (Pont., 1765) (Col., Chrysomelidae), an agent for the biological control of hound's-tongue (*Cynoglossum officinale* L., Boraginaceae) in North America. Journal of Applied Entomology 121:457-464.
- JUDD, W. W. 1949. Insects collected in the Dundas Marsh, Hamilton, Ontario, 1946-47, with observations on their periods of emergence. The Canadian Entomologist 81(1):1-10.
- JUDD, W. W. 1959. Studies of the Byron Bog in southwestern Ontario. X. Inquilines and victims of the pitcher-plant, *Sarracenia purpurea* L. The Canadian Entomologist 91(3):171-180.
- JUDD, W. W. 1960. Studies of the Byron Bog in southwestern Ontario. XI. Seasonal distribution of adult insects in the *Chamaedapnetum calyculatae* association. The Canadian Entomologist 92:241-251.
- JUDD, W. W. 1961. Insects and other invertebrates associated with flowering skunk cabbage, *Symplocarpus foetidus* (L.) Nutt., at Fanshawe Lake, Ontario. The Canadian Entomologist 93(4):241-249.
- JUDD, W. W. 1964. Insects associated with flowering marsh marigold, *Caltha palustris* L., at London, Ontario. The Canadian Entomologist 96(11):1472-1476.
- JUDD, W. W. 1970 (1969). Insects associated with flowering wild carrot, *Daucus carota* L., in southern Ontario. Proceedings of the Entomological Society of Ontario 100:176-181.
- JUESTER, *. 1967. Potato flea beetle (*Epitrix cucumeris*). Cooperative Economic Insect Report 17(25):531.
- JULIANO, S. A. 1988. Chrysomelid beetles on water lily leaves: herbivore density, leaf survival, and herbivore maturation. Ecology 69(4):1294-1298.
- JULIEN, M. H. AND M. W. GRIFFITHS (eds.). 1998. Biological Control of Weeds: a World Catalogue of Agents and their Target Weeds. Fourth Edition. CABI Publishing, New York, NY. 223 pages.
- KAATZ, *. 1970. Western black flea beetle (*Phyllotreta pusilla*). Cooperative Economic Insect Report 20(24):386.
- KALAICHELVAN, T., P. JOLIVET, K. K. VERMA, AND S. DOGUET. 2001. *Chaetocnema confinis* Crotch in India (Coleoptera, Chrysomelidae, Alticinae). Nouvelle Revue d'Entomologie (Nouvelle Série) 18(3):241-243.
- KANERVO, V. 1937. Havaintoja *Chrysomela variansin* (Col., Chrysomelidae) biologiasta. Suomen Hyönteisteiteellinen Aikakauskirja 3(3):132-139.
- KANTACK, B. H. 1965. Southern corn rootworm (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 15(35):994.
- KAREIVA, P. 1985. Finding and losing host plants by *Phyllotreta*: patch size and surrounding habitat. Ecology 66(6):1809-1816.
- KARREN, J. B. 1964. Protective coloration and form in the North American genus *Exema* (Chrysomelidae, Coleoptera). Proceedings of the North Central Branch, Entomological Society of America 19:77-79.
- KARREN, J. B. 1966. A revision of the genus *Exema* of America, north of Mexico (Chrysomelidae, Coleoptera). The University of Kansas Science Bulletin 46:647-695.
- KARREN, J. B. 1970. Zoogeography of the chrysomelid subfamily Chlamisinae (Coleoptera). The Radford Review 24(4):129-142.
- KARREN, J. B. 1972. A revision of the subfamily Chlamisinae of America, north of Mexico (Chrysomelidae, Coleoptera). The University of Kansas Science Bulletin 49:875-988.
- KARREN, J. B. 1986a. The Cereal Leaf Beetle in Utah. Utah State University, Cooperative Extension Service, Logan, Utah. 6 pages.
- KARREN, J. B. 1986b. Elm leaf beetles. Utah State University, Department of Biology, Cooperative Extension Service, Extension Entomology, Control Series 22 (revised):1-3.
- KARREN, J. B. 1993. Cereal leaf beetle. Utah State University, Department of Biology, Extension Entomology, Fact Sheet 84:1-3.
- KATOVICH, E. J. S., R. L. BECKER, AND D. W. RAGSDALE. 1999. Effect of *Galerucella* spp. on survival of purple loose-

- strife (*Lythrum salicaria*) roots and crowns. *Weed Science* 47(3):360-365.
- KATOVICH, E. J. S., D. W. RAGSDALE, L. C. SKINNER, AND R. L. BECKER. 2001. Effect of *Galerucella* spp. feeding on seed production in purple loosestrife. *Weed Science* 49(2):190-194.
- KAUFMAN, L. N. AND D. A. LANDIS. 2000. Host specificity testing of *Galerucella californiensis* L. (Coleoptera: Chrysomelidae) on wild and ornamental plant species. *Biological Control* 18:157-164.
- KAUFMANN, D. L. 1967. Notes on the biology of three species of *Lema* (Coleoptera: Chrysomelidae) with larval descriptions and key to described United States species. *Journal of the Kansas Entomological Society* 40(3):361-372.
- KAUFMANN, T. 1970. Studies on the biology and ecology of *Pyrrhalta nymphaea* [sic] (Col. Chrysomelidae) in Alaska with special reference to population dynamics. *The American Midland Naturalist* 83(2):496-509.
- KAWAMURA, K. F. 1973. Hawaii insect report, fruits and nuts. *Cooperative Economic Insect Report* 23(5):28.
- KEARSLEY, M. J. C. AND T. G. WHITHAM. 1992. Guns and butter: a no cost defense against predation for *Chrysomela confluenta*. *Oecologia* 92:556-562.
- KEEN, F. P. 1938. Insect enemies of western forests. United States Department of Agriculture, Miscellaneous Publication 273:1-209.
- KEEN, F. P. 1952. Insect enemies of western forests. United States Department of Agriculture, Miscellaneous Publication 273(revised):1-280.
- KEESE, M. C. 1997. Does escape to enemy-free space explain host specialization in two closely related leaf-feeding beetles (Coleoptera: Chrysomelidae)? *Oecologia* 112:81-86.
- KEESE, M. C. 1998. Performance of two monophagous leaf feeding beetles (Coleoptera: Chrysomelidae) on each other's host plant: Do intrinsic factors determine host plant specialization? *Journal of Evolutionary Biology* 11(4):403-419.
- KEITH, D. L. 1968. Corn rootworms (*Diabrotica* spp.). *Cooperative Economic Insect Report* 18(33):786.
- KEITH, D. L. AND * PETERSON. 1967. Corn rootworms (*Diabrotica* spp.). *Cooperative Economic Insect Report* 17(35):810.
- KEITH, D. L., * PETERSON, AND * BELAND. 1967. Corn rootworms (*Diabrotica* spp.). *Cooperative Economic Insect Report* 17(35):809.
- KELLEY, J. 1985. Update on *Pyrrhalta nymphaeae* (*Galerucella*) in central Florida. *Aquatics* 7(4):17.
- KELLOGG, V. L. 1892. Common Injurious Insects of Kansas. The University of Kansas, Lawrence, Kansas. 126 pages.
- KELLY, E. O. G. 1915. The southern corn leaf-beetle. *Bulletin of the United States Department of Agriculture* 221:1-11.
- KELSHEIMER, E. G. 1945. Notes on the great elm leaf beetle. *The Florida Entomologist* 28(2):25-27.
- KELSHEIMER, E. G. 1954. Banded cucumber beetle (*Diabrotica balteata*). *Cooperative Economic Insect Report* 4(40):907.
- KELSHEIMER, E. G. 1956. Insects and other pests of gladiolus and their control. Florida Agricultural Experiment Station Circular S-91:1-24.
- KENNEDY, G. G. 2003. Colorado potato beetle. Pages 242-244 in V. H. Resh and R. T. Cardé (eds.). *Encyclopedia of Insects*. Academic Press, San Diego, California.
- KENNEDY, G. G., L. R. ROMANOW, S. F. JENKINS, AND D. C. SANDERS. 1983. Insects and diseases damaging tomato fruits in the coastal plain of North Carolina. *Journal of Economic Entomology* 76:168-173.
- KENNEDY, G. G. AND C. F. SORENSON. 1985. Role of glandular trichomes in the resistance of *Lycopersicon hirsutum* f. *glabratum* to Colorado potato beetle (Coleoptera: Chrysomelidae). *Journal of Economic Entomology* 78(3):547-551.
- KENNEDY, G. G., C. E. SORENSON, AND R. L. FREY. 1985. Mechanisms of resistance to Colorado potato beetle in tomato. Massachusetts Agricultural Experiment Station, Research Bulletin 704:107-116.
- KENNEDY, M. K. AND F. LAEMMLEN. 1979. Cereal leaf beetle (*Oulema melanopus*). *Cooperative Plant Pest Report* 4(15):420.
- KERR, T. W. 1951. Several injurious ornamental and shade tree insects and their control. *Journal of Economic Entomology* 44(2):234-240.
- KERR, T. W. 1959. Insects of ornamental trees and shrubs in Rhode Island. University of Rhode Island, Agricultural Experiment Station, Bulletin 348:1-55.
- KERR, T. W. AND H. L. HANSEN. 1959. Additional notes, Rhode Island. *Cooperative Economic Insect Report* 9(27):612.
- KERR, T. W. AND C. E. OLNEY. 1960. Laboratory studies of three-lined potato beetle and control with various insecticides. *Journal of Economic Entomology* 53(3):480-481.
- KERR, T. W. AND I. H. STUCKEY. 1956. Insects attacking red clover in Rhode Island and their control. *Journal of Economic Entomology* 49(3):371-375.
- KHRULEVA, O. A. 1994. Life cycle of the leaf cutting beetle *Chrysolina subsulcata* (Coleoptera, Chrysomelidae) on Wrangel Island. *Entomological Review* 73(7):117-125.
- KHRULEVA, O. A. 1996. Biology of Arctic leaf beetle *Chrysolina cavigera* on Wrangel Island. Pages 259-270 in P. H. A. Jolivet and M. L. Cox (eds.). *Chrysomelidae Biology*, vol. 3: General Studies. SPB Academic Publishing, Amsterdam, The Netherlands.
- KIDO, G. S. 1941. Methyl bromide fumigation of strawberry planting stock to control *Paria canella* var. *quadrinotata* (Say). *Journal of Economic Entomology* 34(6):766-768.

Literature Cited

- KINCAID, T. 1900. The metamorphoses of some Alaska Coleoptera. *Proceedings of the Washington Academy of Sciences* 2:367-388.
- KING, *. 1967. Flea beetles. *Cooperative Economic Insect Report* 17(26):567.
- KING, A. B. S. AND J. L. SAUNDERS. 1984. *The Invertebrate Pests of Annual Food Crops in Central America*. Overseas Development Administration, London. 166 pages.
- KING, B. L. 1993. *Pyrrhalta rufosanguinea* (Coleoptera: Chrysomelidae): A monophagous leaf beetle of *Rhododendron periclymenoides* (Ericaceae)? *Banisteria* 2:20-22.
- KING, B. L. 1994. An experimental investigation of azalea host choice by the leaf beetle *Pyrrhalta rufosanguinea* (Coleoptera: Chrysomelidae). *Banisteria* 4:26-28.
- KINOSHITA, G. B., H. J. SVEC, C. R. HARRIS, AND F. L. MCEWEN. 1979. Biology of the crucifer flea beetle, *Phyllotreta cruciferae* (Coleoptera: Chrysomelidae), in southwestern Ontario. *The Canadian Entomologist* 111:1395-1407.
- KIPPENBERG, H. AND M. DÖBERL. 1994. Family: Chrysomelidae. Pages 17-142 in G. A. Lohse and W. H. Lucht. *Die Käfer Mitteleuropas*, 3. Supplementband. Krefeld, Germany.
- KIRK, V. M. 1969. A list of beetles of South Carolina, part 1 northern coastal plain. *South Carolina Agricultural Experiment Station, Technical Bulletin* 1033:1-124.
- KIRK, V. M. 1970. A list of beetles of South Carolina, part 2 mountain, piedmont, and southern coastal plain. *South Carolina Agricultural Experiment Station, Technical Bulletin* 1038:1-117.
- KIRK, V. M. 1971. Color changes by adults of the tortoise beetle, *Physonota helianthi* (Randall) (Coleoptera: Chrysomelidae). *The Coleopterists Bulletin* 25(3):91-93.
- KIRK, V. M. AND E. U. BALSBAUGH. 1975. A list of the beetles of South Dakota. *South Dakota State University, Agricultural Experiment Station, Technical Bulletin* 42:1-139.
- KIRK, V. M., C. O. CALKINS, AND F. J. POST. 1968. Oviposition preferences of western corn rootworms for various soil surface conditions. *Journal of Economic Entomology* 61(5):1322-1324.
- KIRKENDALL, L. R. 1984. Long copulations and post-copulatory 'escort' behaviour in the locust leaf miner, *Odontota dorsalis* (Coleoptera: Chrysomelidae). *Journal of Natural History* 18:905-919.
- KISMALI, S. AND D. SASSI. 1994. Preliminary list of Chrysomelidae with notes on distribution and importance of species in Turkey. II. Subfamily Cassidinae Spaeth. *Türkiye Entomologi Dergisi* 18(3):141-156.
- KLEIN, M. G. AND H. C. COPPEL. 1966 (1965). Oviposition habits of a white pine chrysomelid, *Glyptoscelis pubescens* (Fabr.). *Proceedings of the North Central Branch, Entomological Society of America* 20:140-141.
- KLEIN, M. G. AND H. C. COPPEL. 1969. The pine chrysomelid, *Glyptoscelis pubescens*, in northwestern Wisconsin. *Annals of the Entomological Society of America* 62(1):1-7.
- KLIX, * AND W. M. HANTSBARGER. 1958. Flea beetles. *Cooperative Economic Insect Report* 8(39):830.
- KLOTS, A. AND E. KLOTS. 1972. *Insects of North America*. Doubleday & Company, Inc. New York. 250 pages.
- KNAB, F. 1903. Beetle prizes at Springfield, Mass. *Entomological News* 14:89-90.
- KNAB, F. 1905. A new species of *Donacia*. *Proceedings of the Entomological Society of Washington* 7(2-3):122-123.
- KNAB, F. 1907. Notes on *Leptinotarsa undecimlineata* Stål. *Journal of the New York Entomological Society* 15:190-193.
- KNAB, F. 1908. Tower's Evolution in *Leptinotarsa*. *Science (New Series)* 27:223-227.
- KNAB, F. 1909a. Some species of *Calligrapha* (Coleoptera, Chrysomelidae). *Proceedings of the Entomological Society of Washington* 11:83-87.
- KNAB, F. 1909b. Nuptial colors in the Chrysomelidae (Coleoptera). *Proceedings of the Entomological Society of Washington* 11:151-153.
- KNAB, F. 1909c. Notes on tachinid parasites of Chrysomelidae. *Psyche* 16:34-35.
- KNAB, F. 1911. *Chrysomela staphylea* Linne in North America (Col.). *Entomological News* 22:306-309.
- KNAUS, W. 1904. The Coleoptera of the Sacramento Mountains of New Mexico. – II. *Entomological News* 15:152-156.
- KNAUS, W. 1906a. Additions to list of Kansas Coleoptera, 1905. *Transactions of the Kansas Academy of Science* 20(1):106-107.
- KNAUS, W. 1906b. Coleoptera of the Sacramento Mountains of New Mexico. – III. *Entomological News* 17:329-332.
- KNOWLES, *. 1964. Banded cucumber beetle (*Diabrotica balteata*). *Cooperative Economic Insect Report* 14(42):1149.
- KNOWLES, *. 1974. Bean leaf beetle (*Cerotoma trifurcata*). *Cooperative Economic Insect Report* 24(17):272.
- KNOWLTON, G. F. 1930. Notes on Utah Coleoptera. *The Florida Entomologist* 14:36-37, 53-56, 75-77.
- KNOWLTON, G. F. 1933. Colorado potato beetle. *Utah Agricultural Experiment Station, Leaflet* 6:1-2.
- KNOWLTON, G. F. 1935. Colorado potato beetle. *Utah Agricultural Experiment Station, Leaflet* 54:1-2.
- KNOWLTON, G. F. 1939. Utah Coleoptera. *Utah Agricultural Experiment Station, Mimeograph Series (Technical)* 200(3):1-24.
- KNOWLTON, G. F. 1951a. Spotted asparagus beetle invades Utah. *Bulletin of the Brooklyn Entomological Society* 46:56.
- KNOWLTON, G. F. 1951b. Utah hispine beetles. *Bulletin of the Brooklyn Entomological Society* 46:91.
- KNOWLTON, G. F. 1952. Elm leaf beetle control. *Utah State Agricultural College, Extension Service, Circular* 173:1-2.
- KNOWLTON, G. F. 1954a. Chrysomelid on willow. *Bulletin of the Brooklyn Entomological Society* 49:80.
- KNOWLTON, G. F. 1954b. Some Utah insects of 1954, part II. *Utah State Agricultural College, Extension Service, Mimeograph Series* 134:1-10.
- KNOWLTON, G. F. 1955a. Some Utah insects of 1954, part IV, supplement. *Utah State Agricultural College, Extension*

- Service, Mimeograph Series 138:1-5.
- KNOWLTON, G. F. 1955b. Celery and potato field insects of Utah – III. Utah Agricultural Experiment Station, Mimeograph Series 416:1-17.
- KNOWLTON, G. F. 1955c. Some insects of Utah – 1955. Utah State Agricultural College, Extension Service, Mimeograph Series 147:1-12.
- KNOWLTON, G. F. 1957a. Some insects of Utah – 1956. Utah State Agricultural College, Extension Service, Mimeograph Series 159:1-23.
- KNOWLTON, G. F. 1957b. Some insects of Utah – 1957. Utah State University, Extension Service, Mimeograph Series 164:1-28.
- KNOWLTON, G. F. 1958a. Some Utah insects – 1958, part II. Utah State University, Extension Service, Mimeograph Series 171-A:1-27.
- KNOWLTON, G. F. 1958b. Flea beetles. Cooperative Economic Insect Report 8(20):388.
- KNOWLTON, G. F. 1959. Flea beetles. Cooperative Economic Insect Report 9(31):705.
- KNOWLTON, G. F. 1960. Flea beetles. Cooperative Economic Insect Report 10(26):557.
- KNOWLTON, G. F. 1961. Striped cucumber beetle (*Acalymma vittata*). Cooperative Economic Insect Report 11(28):628.
- KNOWLTON, G. F. 1963a. Hop flea beetle (*Psylliodes punctulata*). Cooperative Economic Insect Report 13(20):520.
- KNOWLTON, G. F. 1963b. Flea beetles. Cooperative Economic Insect Report 13(22):580.
- KNOWLTON, G. F. 1965. Striped flea beetle (*Phyllotreta striolata*). Cooperative Economic Insect Report 15(32):895.
- KNOWLTON, G. F., D. W. DAVIS, H. F. THORNLEY, H. E. DORST, AND B. A. HAWS. 1961. Insect and mite conditions in Utah – 1961. Utah State University, Extension Service, Mimeograph Series 190:1-7.
- KNOWLTON, G. F. AND * ESPLIN. 1963. A flea beetle (*Phyllotreta* sp., near *albionica*). Cooperative Economic Insect Report 13(17):428.
- KNOWLTON, G. F. AND * FINCH. 1963. Hop flea beetle (*Psylliodes punctulata*). Cooperative Economic Insect Report 13(21):553.
- KNOWLTON, G. F. AND * FINCH. 1964. Hop flea beetle (*Psylliodes punctulata*). Cooperative Economic Insect Report 14(21):510.
- KNOWLTON, G. F. AND C. F. SMITH. 1935. Notes on Utah Scarabaeidae and Chrysomelidae (Coleoptera). Entomological News 46:241-244.
- KNOWLTON, G. F. AND C. F. SMITH. 1936. Rose insects. Utah Academy of Sciences, Arts and Letters 13:263-267.
- KNOWLTON, G. F. AND G. P. TAYLOR. 1952. Beetles – Coleoptera, records and notes, largely from Utah. Utah Agricultural Experiment Station, Mimeograph Series 389:1-20.
- KNOWLTON, G. F. AND H. F. THORNLEY. 1960. Western black flea beetle (*Phyllotreta pusilla*). Cooperative Economic Insect Report 10(25):524.
- KOEBELE, A. 1894. Report on entomological work in Oregon and California; notes on Australian importations. United States Department of Agriculture, Division of Entomology, Bulletin 32:33-36.
- KOGAN, M. AND R. D. GOEDEN. 1969. A photometric technique for quantitative evaluation of feeding preferences of phytophagous insects. Annals of the Entomological Society of America 62(2):319-322.
- KOGAN, M. AND R. D. GOEDEN. 1970a. The systematic status of *Lema trilineata daturaphila*, new name, with notes on the morphology of chemoreceptors of adults (Coleoptera: Chrysomelidae). Annals of the Entomological Society of America 63(2):529-537.
- KOGAN, M. AND R. D. GOEDEN. 1970b. The biology of *Lema trilineata daturaphila*, (Coleoptera: Chrysomelidae) with notes on efficiency of food utilization by larvae. Annals of the Entomological Society of America 63(2):537-546.
- KOGAN, M. AND R. D. GOEDEN. 1970c. The host-range of *Lema trilineata daturaphila* (Coleoptera: Chrysomelidae). Annals of the Entomological Society of America 63(4):1175-1180.
- KOGAN, M. AND R. D. GOEDEN. 1971. Feeding and host-selection behavior of *Lema trilineata daturaphila* larvae (Coleoptera: Chrysomelidae). Annals of the Entomological Society of America 64(6):1435-1448.
- KOGAN, M. AND D. D. KOGAN. 1979. *Odontota horni*, a hispine leaf miner adapted to soybean feeding in Illinois. Annals of the Entomological Society of America 72(4):456-461.
- KOGAN, M., W. G. RUESINK, AND K. MCDOWELL. 1974. Spatial and temporal distribution patterns of the bean leaf beetle, *Cerotoma trifurcata* (Forster), on soybeans in Illinois. Environmental Entomology 3(4):607-617.
- KOHL, F. E. AND R. W. PORTMAN. 1963. Western black flea beetle (*Phyllotreta pusilla*). Cooperative Economic Insect Report 13(23):612.
- KOK, L. T. AND R. G. ABAD. 1994. Transmission of *Puccinia carduorum* by the musk thistle herbivores, *Cassida rubiginosa* (Coleoptera: Chrysomelidae), *Trichosirocalus horridus* and *Rhinocyllus conicus* (Coleoptera: Curculionidae). Journal of Entomological Science 29(2):186-191.
- KOK, L. T., T. J. MCAVOY, R. A. MALECKI, S. D. HIGHT, J. H. DREA, AND J. R. COULSON. 1992. Host specificity tests of *Galerucella californiensis* (L.) and *G. pusilla* (Duft.) (Coleoptera: Chrysomelidae), potential biological control agents of purple loosestrife, *Lythrum salicaria* L. (Lythraceae). Biological Control 2:282-290.
- KONSTANTINOV, A. S. 1996. Genus *Aphthona* Chevrolat (Coleoptera: Chrysomelidae: Alticinae) in eastern Europe and the Caucasus (distribution, habitats, host plants, and history of fauna). Pages 37-55 in P. H. A. Jolivet and M. L. Cox (eds.). Chrysomelidae Biology, vol. 3: General Studies. SPB Academic Publishing, Amsterdam, The Netherlands.

Literature Cited

- KONSTANTINOV, A. S. 1998. Revision of the Palearctic species of *Aphthona* Chevrolat and cladistic classification of the Aphthonini (Coleoptera: Chrysomelidae: Alticinae). *Memoirs on Entomology, International* 11:1-429.
- KONSTANTINOV, A. S. AND S. W. LINGAFELTER. 2002. Revision of the Oriental Species of *Aphthona* Chevrolat (Coleoptera: Chrysomelidae). *Miscellaneous Publications of the Entomological Society of Washington*. The Entomological Society of Washington, Washington, D.C. 349 pages.
- KONSTANTINOV, A. S. AND N. J. VANDENBERG. 1996. Handbook of Palearctic flea beetles (Coleoptera: Chrysomelidae: Alticinae). *Contributions on Entomology, International* 1(3):237-439.
- KONSTANTINOV, A. S., M. G. VOLKOVITSH, AND M. CRISTOFARO. 2001. New data on Palearctic *Aphthona* (Coleoptera: Chrysomelidae) with description of a new species: taxonomic and faunistic results of biological control exploration. *Entomological News* 112(1):31-41.
- KOTINSKY, J. 1921. Insects injurious to deciduous shade trees and their control. United States Department of Agriculture, *Farmers' Bulletin* 1169:1-100.
- KOUKI, J. 1991a. Small-scale distribution dynamics of the yellow water-lily and its herbivore *Galerucella nymphaeae* (Coleoptera: Chrysomelidae). *Oecologia* 88(1):48-54.
- KOUKI, J. 1991b. Tracking spatially variable resources: an experimental study on the oviposition of the water-lily beetle. *Oikos* 61(2):243-249.
- KOUKI, J. 1991c. The effect of the water-lily beetle, *Galerucella nymphaeae*, on leaf production and leaf longevity of the yellow water-lily, *Nuphar lutea*. *Freshwater Biology* 26(3):347-353.
- KOUKI, J. 1993a. Herbivory modifies the production of different leaf types in the yellow water-lily, *Nuphar lutea* (Nymphaeaceae). *Functional Ecology* 7(1):21-26.
- KOUKI, J. 1993b. Female's preference for oviposition site and larval performance in the water-lily beetle, *Galerucella nymphaeae* (Coleoptera: Chrysomelidae). *Oecologia* 93(1):42-47.
- KOVALEV, O. V. 1971. Pytophages of ragweeds (*Ambrosia* L.) in North America and their application in biological control in the USSR. *Zoologicheskii Zhurnal* 50:199-209.
- KOVALEV, O. V. AND L. N. MEDVEDEV. 1983. Theoretical principles for the introduction of *Ambrosia* leaf beetles of the genus *Zygogramma* Chev. (Lepidoptera [sic], Chrysomelidae) into the USSR for the biological control of *Ambrosia*. *Entomological Review* 62(1):1-19.
- KOVALEV, O. V., S. Y. REZNIK, AND V. N. CHERKASHIN. 1983. Features of the method for using beetles of the genus *Zygogramma* Chev. (Coleoptera, Chrysomelidae) in the biological control of ragweeds (*Ambrosia artemisiifolia* L., *A. psilostachya* D.C.). *Entomological Review* 62(2):169-175.
- KOWALSKI, S. P., J. M. DOMEK, L. L. SANFORD, AND K. L. DEAHL. 2000. Effect of α -tomatine and tomatidine on the growth and development of the Colorado potato beetle (Coleoptera: Chrysomelidae): Studies using synthetic diets. *Journal of Entomological Science* 35(3):290-300.
- KRAFSUR, E. S. 1995. Gene flow between univoltine and semivoltine northern corn rootworm (Coleoptera: Chrysomelidae) populations. *Annals of the Entomological Society of America* 88(5):699-704.
- KRAFSUR, E. S., P. NARIBOLI, AND J. J. TOLLEFSON. 1993. Gene diversity in natural *Diabrotica barberi* Smith & Lawrence populations (Coleoptera: Chrysomelidae). *Annals of the Entomological Society of America* 86(4):490-495.
- KRAFT, S. K. AND R. F. DENNO. 1982. Feeding responses of adapted and non-adapted insects to the defensive properties of *Baccharis halimifolia* L. (Compositae). *Oecologia (Berlin)* 52:156-163.
- KRAUSS, N. L. H. 1937. A study of the genus *Glyptoscelsis* LeConte in America north of Mexico (Coleoptera, Chrysomelidae). University of California Publications in Entomology 7(2):21-32.
- KRAUSS, N. L. H. 1941. *Lema trilineata californica* Schaeffer. *Proceedings of the Hawaiian Entomological Society* 11(1):10.
- KRAUSS, N. L. H. 1962. Biological control investigations on lantana. *Proceedings of the Hawaiian Entomological Society* 18(1):134-136.
- KRAUSS, N. L. H. 1964. Some leaf-mining chrysomelids of lantana (Coleoptera). *The Coleopterists' Bulletin* 18:92-94.
- KRING, J. B. 1958. Feeding behavior and DDT resistance of *Epitrix cucumeris* (Harris). *Journal of Economic Entomology* 51(6):823-828.
- KROISS, L. J., K. L. BROZ, C. B. S. TONG, AND W. D. HUTCHISON. 2002. Tomatillo resistance to Colorado potato beetle (Coleoptera: Chrysomelidae). *Journal of Entomological Science* 37(3):244-253.
- KRYSAN, J. L. 1986. Introduction: biology, distribution, and identification of pest *Diabrotica*. Pages 1-23 in J. L. Krysan and T. A. Miller (eds.). *Methods for the Study of Pest Diabrotica*. Springer-Verlag, New York.
- KRYSAN, J. L. 1993. Adaptations of *Diabrotica* to habitat manipulations. Pages 361-373 in K. C. Kim and B. A. McPherson (eds.), *Evolution of Insect Pests/Patterns of Variation*. Wiley & Sons, New York.
- KRYSAN, J. L. 1999. Selected topics in the biology of *Diabrotica*. Pages 479-513 in M. L. Cox (ed.). *Advances in Chrysomelidae Biology* 1. Backhuys Publishers, Leiden, The Netherlands.
- KRYSAN, J. L. AND T. F. BRANSON. 1983. Biology, ecology, and distribution of *Diabrotica*. Pages 144-150 in D. T. Gordon, J. K. Knoke, L. R. Nault, and R. M. Ritter (eds.). *Proceedings, International Maize Virus Disease Colloquium and Workshop, 2-6 August 1982*. The Ohio State University, Ohio Agricultural Research and Development Center, Wooster, Ohio.
- KRYSAN, J. L., I. C. McDONALD, AND J. H. TUMLINSON. 1989. Phenogram based on allozymes and its relationship to

- classical biosystematics and pheromone structure among eleven diabroticites (Coleoptera: Chrysomelidae). *Annals of the Entomological Society of America* 82(5):574-581.
- KRYSAN, J. L. AND R. F. SMITH. 1987. Systematics of the *virgifera* species group of *Diabrotica* (Coleoptera: Chrysomelidae: Galerucinae). *Entomography* 5:375-484.
- KRYSAN, J. L., R. F. SMITH, T. F. BRANSON, AND P. L. GUSS. 1980. A new subspecies of *Diabrotica virgifera* (Coleoptera: Chrysomelidae): description, distribution, and sexual compatibility. *Annals of the Entomological Society of America* 73(2):123-130.
- KRYSAN, J. L., R. F. SMITH, AND P. L. GUSS. 1983. *Diabrotica barberi* (Coleoptera: Chrysomelidae) elevated to species rank based on behavior, habitat choice, morphometrics, and geographical variation of color. *Annals of the Entomological Society of America* 76(2):197-204.
- KUMAR, R., R. J. LAVIGNE, J. E. LLOYD, AND R. E. PFADT. 1976. Insects of the Central Plains Experiment Range, Pawnee National Grassland. University of Wyoming, Agricultural Experiment Station, Science Monograph 32:1-74.
- KYD, S. AND G. W. THOMAS. 1953a. Corn rootworms (*Diabrotica* spp.). Cooperative Economic Insect Report 3(33):604.
- KYD, S. AND G. W. THOMAS. 1953b. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 3(41):725.
- KYD, S. AND G. W. THOMAS. 1954a. A leaf beetle (*Myochrous denticollis*). Cooperative Economic Insect Report 4(21):422.
- KYD, S. AND G. W. THOMAS. 1954b. Corn rootworms. Cooperative Economic Insect Report 4(31):710.
- KYD, S. AND G. W. THOMAS. 1956. Corn rootworms. Cooperative Economic Insect Report 6(35):868.
- KYD, S. AND G. W. THOMAS. 1957. Corn rootworms (*Diabrotica* spp.). Cooperative Economic Insect Report 7(32):637.
- KYD, S., G. W. THOMAS, AND R. E. MUNSON. 1959a. Flea beetles. Cooperative Economic Insect Report 9(22):462.
- KYD, S., G. W. THOMAS, AND R. E. MUNSON. 1959b. Northern corn rootworm (*Diabrotica longicornis*). Cooperative Economic Insect Report 9(32):726.
- KYD, S., G. W. THOMAS, AND R. E. MUNSON. 1959c. Northern corn rootworm (*Diabrotica longicornis*). Cooperative Economic Insect Report 9(35):798.
- LACROIX, D. S. 1935. Insect pests of growing tobacco in Connecticut. Connecticut Agricultural Experiment Station Bulletin 379:89-130.
- LAGO, P. K. AND M. O. MANN. 1987. Survey of Coleoptera associated with flowers of wild carrot (*Daucus carota* L.) (Apiaceae) in northern Mississippi. *The Coleopterists Bulletin* 41(1):1-8.
- LAGO, P. K. AND D. F. STANFORD. 1989. Phytophagous insects associated with cultivated marijuana, *Cannabis sativa*, in northern Mississippi. *Journal of Entomological Science* 24(4):437-445.
- LAGO, P. K., A. E. ZUCCARO, AND S. TESTA. 2002. The terrestrial Coleoptera of Point Clear Island and surrounding marshlands, Hancock County, Mississippi. *Journal of the Mississippi Academy of Sciences* 47(4):194-206.
- LAJEUNESSE, S., R. SHELEY, R. LYM, D. COOKSEY, C. DUNCAN, J. LACEY, N. REES, AND M. FERRELL. 1995. Leafy spurge: biology, ecology, and management. Montana State University, Extension Service, Bulletin 134:1-25.
- LAMB, R. J. 1980. Hairs protect pods of mustard (*Brassica hirta* 'Gisilba') from flea beetle feeding damage. *Canadian Journal of Plant Science* 60:1439-1440.
- LAMB, R. J. 1983. Phenology of flea beetle (Coleoptera: Chrysomelidae) flight in relation to their invasion of canola fields in Manitoba. *The Canadian Entomologist* 115:1493-1502.
- LAMB, R. J. 1984. Effects of flea beetles, *Phyllotreta* spp. (Chrysomelidae: Coleoptera), on the survival, growth, seed yield and quality of canola, rape and yellow mustard. *The Canadian Entomologist* 116:269-280.
- LAMB, R. J. 1988a. Susceptibility of low- and high-glucosinolate oilseed rapes to damage by flea beetles, *Phyllotreta* spp. (Coleoptera: Chrysomelidae). *The Canadian Entomologist* 120:195-196.
- LAMB, R. J. 1988b. Assessing the susceptibility of crucifer seedlings to flea beetle (*Phyllotreta* spp.) damage. *Canadian Journal of Plant Science* 68:85-93.
- LAMB, R. J. 1989. Entomology of oilseed *Brassica* crops. *Annual Review of Entomology* 34:211-229.
- LAMB, R. J. AND P. PACHAGOUNDER. 1990. Host discrimination by two flea beetles, *Phyllotreta* spp., that attack oilseed rape. *Proceedings of the Entomological Society of Manitoba* 46:31.
- LAMB, R. J. AND P. PALANISWAMY. 1990. Host discrimination by a crucifer-feeding beetle, *Phyllotreta striolata* (F.) (Coleoptera: Chrysomelidae). *The Canadian Entomologist* 122:817-824.
- LAMB, R. J., P. PALANISWAMY, K. A. PIVNICK, AND M. A. H. SMITH. 1993. A selection of oilseed rape, *Brassica rapa* L., with resistance to flea beetles, *Phyllotreta cruciferae* (Goeze) (Coleoptera: Chrysomelidae). *The Canadian Entomologist* 125:703-713.
- LAMMERS, G. W. 1964. Biological notes on the leaf beetle *Acalymma gouldi* (Coleoptera: Chrysomelidae). *Entomological News* 75:187-189.
- LANCE, D. R. AND J. R. FISHER. 1987. Food quality of various plant tissues for adults of the northern corn rootworm (Coleoptera: Chrysomelidae). *Journal of the Kansas Entomological Society* 60(3):462-466.
- LANDIS, B. J. 1948. Plants upon which tuber flea beetles and western potato flea beetles propagate. *Journal of Economic Entomology* 41(1):6-10.
- LANDIS, B. J. 1962. Colorado potato beetle (*Leptinotarsa decemlineata*), Washington. Cooperative Economic Insect

Literature Cited

- Report 12(23):592.
- LANDIS, B. J. 1964a. Colorado potato beetle (*Leptinotarsa decemlineata*). Cooperative Economic Insect Report 14(19): 438.
- LANDIS, B. J. 1964b. Colorado potato beetle (*Leptinotarsa decemlineata*). Cooperative Economic Insect Report 14(24): 613.
- LANDIS, B. J. 1964c. Western potato flea beetle (*Epitrix subcrinita*). Cooperative Economic Insect Report 14(24):615.
- LANGE, W. H. 1944. Insects affecting guayule with special reference to those associated with nursery plantings in California. *Journal of Economic Entomology* 37(3):392-399.
- LANGSTON, J. M. AND R. E. HUTCHINS. 1955. Summary of insect conditions – 1955, Mississippi. Cooperative Economic Insect Report 5(49):1085-1087.
- LA QUEY, * AND W. H. HANTSBARGER. 1962. A leaf beetle (*Gastrophysa cyanea*). Cooperative Economic Insect Report 12(19):462.
- LA RIVERS, I. 1951. The cerambycid semi-aquatic Coleoptera of the Nevada area. *The Great Basin Naturalist* 11(3-4): 97-104.
- LAROCHE, A., R. A. DECLERCK-FLOATE, L. LE SAGE, K. D. FLOATE, AND T. DEMERKE. 1996. Are *Altica carduorum* and *Altica cirsiicola* (Coleoptera: Chrysomelidae) different species? Implications for the release of *A. cirsiicola* for the biocontrol of Canada thistle in Canada. *Biological Control* 6:306-314.
- LARSON, A. O. 1926. Observations on the characteristic injury caused by the lima bean pod borer, *Etiella zinckenella* Treit., and other insects with which its injury is confused in California. *Journal of Economic Entomology* 19(5):699-703.
- LARSON, D. J. 1987. Aquatic Coleoptera of peatlands and marshes in Canada. *Memoirs of the Entomological Society of Canada* 140:99-132.
- LARSON, F. P. 1965. A leaf beetle (*Galeruca rudis*). Cooperative Economic Insect Report 15(35):1016.
- LATHEEF, M. A. AND D. G. HARCOURT. 1972. A quantitative study of food consumption, assimilation, and growth in *Leptinotarsa decemlineata* (Coleoptera: Chrysomelidae) on two host plants. *The Canadian Entomologist* 104: 1271-1276.
- LATHEEF, M. A. AND D. G. HARCOURT. 1973. A sampling plan for studies on the population dynamics of *Leptinotarsa decemlineata* (Coleoptera: Chrysomelidae) on tomato. *Entomologia Experimentalis et Applicata* 16:365-372.
- LATHEEF, M. A. AND D. G. HARCOURT. 1974. The dynamics of *Leptinotarsa decemlineata* populations on tomato. *Entomologia Experimentalis et Applicata* 17:67-76.
- LATHEEF, M. A. AND R. D. IRWIN. 1980. Effect of companionate planting on snap bean insects, *Epilachna varivestita* [sic] and *Heliothis zea*. *Environmental Entomology* 9(2):195-198.
- LA VIGNE, R. J. 1976. Rangeland insect-plant associations on the Pawnee Site. *Annals of the Entomological Society of America* 69(4):753-763.
- LAWRENCE, W. S. AND C. E. BACH. 1989. Chrysomelid beetle movements in relation to host-plant size and surrounding non-host vegetation. *Ecology* 70(6):1679-1690.
- LAWSON, F. A. 1950. Biology of *Gastrophysa cyanea* Melsh. (Coleoptera: Chrysomelidae). *The Ohio Journal of Science* 50(5):221-228.
- LAWSON, F. A. 1976a. Egg and larval case formation by *Pachybrachis bivittatus*. *Annals of the Entomological Society of America* 69(5):942-944.
- LAWSON, F. A. 1976b. New distribution records of Chrysomelinae (Coleoptera: Chrysomelidae). *The Coleopterists Bulletin* 30(3):285-288.
- LAWSON, F. A. 1991. Chrysomelidae (Chrysomeloidea) (= Cassididae, Cryptocephalidae, Megalopodidae, Sagridae, etc.). Pages 568-585 in F. W. Stehr (ed.). *Immature Insects*, Volume 2. Kendall/Hunt Publishing Company, Dubuque, Iowa.
- LAYS, P. 2001. The donaciines (Coleoptera Chrysomelidae Donaciinae) and the Gause principle. *Bulletin de la Société royale belge d'Entomologie* 137:128-138.
- LAYS, P. 2002. Notes on the donaciines (Coleoptera Chrysomelidae Donaciinae) (1-10). *Bulletin de la Société royale belge d'Entomologie* 138:77-84.
- LAYTON, M. B., D. J. BOETHEL, AND C. M. SMITH. 1987. Resistance to adult bean leaf beetle and banded cucumber beetle (Coleoptera: Chrysomelidae) in soybean. *Journal of Economic Entomology* 80(1):151-155.
- LAZORKO, W. 1973. Three species of Coleoptera new to British Columbia. *Journal of the Entomological Society of British Columbia* 70:41.
- LAZORKO, W. 1974. Descriptions of three new *Chalcoides* Foudr. from Canada, with a key to the known Nearctic species (Chrysomelidae: Halticinae). *Entomologische Blätter* 70(3):146-154.
- LEBLANC, A. 1986. Le cycle vital de la Casside dorée *Charidotella bicolor* (Fabricius) (Coleoptera: Chrysomelidae). *Faberies* 13(1):1-9.
- LECONTE, J. L. 1859. The Coleoptera of Kansas and eastern New Mexico. *Smithsonian Contributions to Knowledge* 11:1-58.
- LECONTE, J. L. 1865. On the species of *Galeruca* and allied genera inhabiting North America. *Proceedings of the Academy of Natural Sciences of Philadelphia* 17:204-222.
- LECONTE, J. L. 1868. New Coleoptera collected on the survey for the extension of the Union Pacific Railway, E. D.

- from Kansas to Fort Craig, New Mexico. Transactions of the American Entomological Society 2:7-59.
- LECONTE, J. L. AND G. H. HORN. 1883. Classification of the Coleoptera of North America. Smithsonian Miscellaneous Collections 507:1-567.
- LEDBETTER, * AND * PINKSTON. 1965. Striped flea beetle (*Phyllotreta striolata*). Cooperative Economic Insect Report 15(23):577.
- LEE, C. W. 1949. Summary of the Insects Found in Association with *Cercis canadensis* L. in the Vicinity of Miami University, Oxford, Ohio. M. S. Thesis, The Ohio State University, Columbus, Ohio.
- LEE, J. E. 1996. Systematic study of Korean Chrysomelinae (Coleoptera: Chrysomelidae) by larval characters. Korean Journal of Entomology 26(2):125-134.
- LEE, J. E. 1998. Leaf beetle larvae of Zeugophorinae from North America and Europe (Coleoptera: Chrysomelidae). The Coleopterists Bulletin 52(2):118-125.
- LEE, J. E. 1999. Taxonomic study of the larvae of the genus *Blepharida* (Coleoptera: Chrysomelidae: Alticinae). Korean Journal of Entomology 29(3):203-207.
- LEE, J. E. AND D. G. FURTH. 2000. Larval morphology and biology of a North American and an Israeli *Altica* species (Coleoptera: Chrysomelidae: Alticinae). The Florida Entomologist 83(3):276-284.
- LEE, J. E., S. W. LINGAFELTER, AND A. S. KONSTANTINOV. 1998. Larval morphology of *Systema blanda* Melsheimer (Coleoptera: Chrysomelidae: Alticinae). Proceedings of the Entomological Society of Washington 100(3):484-488.
- LEECH, H. B. 1943. Miscellaneous records of beetles in British Columbia (Coleoptera: Hydrophilidae, Elateridae, Buprestidae, Lathridiidae, Chrysomelidae, Curculionidae). Proceedings of the Entomological Society of British Columbia 40:26-27.
- LEECH, H. B. AND H. P. CHANDLER. 1956. Aquatic Coleoptera. Pages 293-371 in R. L. Usinger (ed.). Aquatic Insects of California with Keys to North American Genera and California Species. University of California Press, Berkeley, California.
- LEECH, H. B. AND J. W. GREEN. 1955. Plant association data for a few Arizona and New Mexico Coleoptera (Cleridae, Meloidae, Chrysomelidae, Cerambycidae). The Coleopterists' Bulletin 9(2):27-28.
- LEEPER, *. 1969. Sweetpotato flea beetle [*Chaetocnema confinis*]. Cooperative Economic Insect Report 19(21):362.
- LEIGH, T. F. AND A. H. HYER. 1971. Susceptibility of glandless cotton to attack by *Diabrotica* beetles. Journal of Economic Entomology 64(1):319.
- LEMEN, C. 1981 (1980). Elm trees and elm leaf beetles: patterns of herbivory. Oikos 36:65-67.
- LEMONS, *. 1968. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 18(46):1065.
- LENG, C. W. 1891. Revision of the Donaciae of boreal America. Transactions of the American Entomological Society 18:159-176.
- LENG, C. W. 1918. Notes on some changes in the list of Coleoptera. Journal of the New York Entomological Society 26:201-211.
- LENG, C. W. 1919. Family Chrysomelidae. Pages 17E-18E in Report of the Canadian Arctic Expedition 1913-18, Volume III. Thomas Mulvey, Ottawa, Canada.
- LENHARDT, *. 1961. A chrysomelid (*Anomoea laticlavata*). Cooperative Economic Insect Report 11(28):635.
- LENHARDT, * AND * BARROWS. 1962. A leaf beetle (*Anomoea laticlavata*). Cooperative Economic Insect Report 12(25):666.
- LESAGE, L. 1982. The immature stages of *Exema canadensis* Pierce (Coleoptera: Chrysomelidae). The Coleopterists Bulletin 36(2):318-327.
- LESAGE, L. 1983. Note sur la distribution présente et future du criocère du lys, *Lilioceris lili* (Scopoli) (Coleoptera: Chrysomelidae) dans l'est du Canada. Le Naturaliste Canadien 110:95-97.
- LESAGE, L. 1984a. Immature stages of Canadian *Neochlamisus* Karren (Coleoptera: Chrysomelidae). The Canadian Entomologist 116:383-409.
- LESAGE, L. 1984b. Egg, larva, and pupa of *Lexiphanes saponatus* (Coleoptera: Chrysomelidae: Cryptocephalinae). The Canadian Entomologist 116:537-548.
- LESAGE, L. 1985. The eggs and larvae of *Pachybrachis peccans* and *P. bivittatus*, with a key to the known immature stages of the Nearctic genera of Cryptocephalinae (Coleoptera: Chrysomelidae). The Canadian Entomologist 117:203-220.
- LESAGE, L. 1986a. The eggs and larvae of *Cryptocephalus quadruplex* Newman and *C. venustus* Fabricius, with a key to the known immature stages of the Nearctic genera of cryptocephaline leaf beetles (Coleoptera: Chrysomelidae). The Canadian Entomologist 118:97-111.
- LESAGE, L. 1986b. A taxonomic monograph of the Nearctic galerucine genus *Ophraella* Wilcox (Coleoptera: Chrysomelidae). Memoirs of the Entomological Society of Canada 133:1-75.
- LESAGE, L. 1988a. Notes on European *Longitarsus* species introduced in North America (Coleoptera: Chrysomelidae: Alticinae). The Canadian Entomologist 120:1133-1145.
- LESAGE, L. 1988b. Canadian leaf beetles for biocontrol of ragweed in the Soviet Union and China. Biocontrol News 1(1):5.
- LESAGE, L. 1990a. *Chaetocnema concinna* (Marsham, 1802), a European flea beetle introduced in North America

Literature Cited

- (Coleoptera: Chrysomelidae: Alticinae). The Canadian Entomologist 122:647-650.
- LESAGE, L. 1990b. Description of a new Canadian species of *Altica* feeding on birch (Coleoptera: Chrysomelidae, Alticinae). The Canadian Entomologist 122:1229-1234.
- LESAGE, L. 1992. Le criocère du lis, *Lilioceris lili* (Scopoli), au Canada (Coleoptera: Chrysomelidae). La Revue Canadienne des Insectes Nuisibles aux Cultures 70:88-96.
- LESAGE, L. 1993. New distribution records for *Crepidodera luminosa* Parry (Coleoptera: Chrysomelidae). The Coleopterists Bulletin 47(3):268.
- LESAGE, L. 1995. Revision of the costate species of *Altica* Müller of North America north of Mexico (Coleoptera: Chrysomelidae). The Canadian Entomologist 127:295-411.
- LESAGE, L. 1996a. Suivi, pour les années 1994 et 1995, des altises de l'euphorbe (Coleoptera: Chrysomelidae: *Aphthona* spp.) relâchées à Marshall Bay (Ontario) contre l'euphorbe (*Euphorbia esula* L.). Proceedings of the Entomological Society of Ontario 127:125-126.
- LESAGE, L. 1996b. Expansion de l'aire de répartition de *Chrysolina hyperici* (Forster) depuis son introduction en Ontario (Coleoptera: Chrysomelidae). Proceedings of the Entomological Society of Ontario 127:127-130.
- LESAGE, L. 1996c. Synchronized pupation in *Chrysomela laurentia* Brown (Coleoptera: Chrysomelidae). Pages 427-432 in P. H. A. Jolivet and M. L. Cox (eds.). Chrysomelidae Biology, Vol. 2: Ecological Studies. SPB Academic Publishing, Amsterdam, The Netherlands.
- LESAGE, L. AND J. DENIS. 1999. The flea-beetle *Altica corni* Woods in North America (Coleoptera: Chrysomelidae, Alticinae). Pages 533-544 in M. L. Cox (ed.). Advances in Chrysomelidae Biology 1. Backhuys Publishers, Leiden, The Netherlands.
- LESAGE, L., M.-C. LARIVIÈRE, AND A. LAROCHELLE. 1994. Les chrysomèles des laisses de crues printanières de la rivière de Outaouais, Québec (Coleoptera Chrysomelidae). Nouvelle Revue d'Entomologie (Nouvelle Série) 11(3):283-289.
- LESAGE, L. AND P. PAQUIN. 1996. Identification keys for *Aphthona* flea beetles (Coleoptera: Chrysomelidae) introduced in Canada for the control of spurge (*Euphorbia* spp., Euphorbiaceae). The Canadian Entomologist 128:593-603.
- LESAGE, L. AND V. L. STIEFEL. 1996. Biology and immature stages of the North American clytrines *Anomoea laticlavata* (Forster) and *A. flavokansiensis* Moldenke (Coleoptera: Chrysomelidae: Clytrinae). Pages 217-238 in P. H. A. Jolivet and M. L. Cox (eds.). Chrysomelidae Biology, Volume 3: General Studies. SPB Academic Publishing, Amsterdam, The Netherlands.
- LEVAN, *, * COLLINS, AND * ESSER. 1963. Flea beetles. Cooperative Economic Insect Report 13(19):493.
- LEVERICH, W. J. 1979. The relationship between *Phlox drummondii* (Polemoniaceae) and its predator *Disonychia alabamae* (Chrysomelidae). Southwestern Naturalist 24(3):536-537.
- LEVESQUE, C. AND G. LEVESQUE. 1998. Faunal composition, wing polymorphism and seasonal abundance of some flea beetles (Coleoptera: Chrysomelidae) in southern Quebec (Canada). The Great Lakes Entomologist 31(1):39-48.
- LEVIN, C. 1940. Breeding hosts of the tobacco flea beetle. Journal of Economic Entomology 33(3):473-475.
- LEVINE, E., J. L. SPENCER, S. A. ISARD, D. W. ONSTAD, AND M. E. GRAY. 2002. Adaptation of the western corn rootworm to crop rotation: evolution of a new strain in response to a management practice. American Entomologist 48(2):94-107.
- LIN, S., B. F. BINDER, AND E. R. HART. 1998a. Insect feeding stimulants from the leaf surface of *Populus*. Journal of Chemical Ecology 24(11):1781-1790.
- LIN, S., B. F. BINDER, AND E. R. HART. 1998b. Chemical ecology of cottonwood leaf beetle adult feeding preferences on *Populus*. Journal of Chemical Ecology 24(11):1791-1802.
- LINCOLN, C. AND * BLACK. 1959. A black flea beetle (*Systema frontalis*). Cooperative Economic Insect Report 9(42):934.
- LINDQUIST, O. H. AND C. N. DAVIS. 1971. The biology of a birch leaf beetle, *Phratora hudsonia* (Coleoptera: Chrysomelidae), with a larval key to forest Chrysomelinae in Ontario. The Canadian Entomologist 103:622-626.
- LINDROTH, C. H. 1971. Disappearance as a protective factor. A supposed case of Bates'ian mimicry among beetles (Coleoptera: Carabidae and Chrysomelidae). Entomologica Scandinavica 2:41-48.
- LINDUSKA, J. J. 1978. Evaluation of soil systemics for control of Colorado potato beetle on tomatoes in Maryland. Journal of Economic Entomology 71(4):647-649.
- LINELL, M. L. 1896. A short review of the chrysomelas of North America. Journal of the New York Entomological Society 4:195-200.
- LINELL, M. L. 1898 (1897). New species of Coleoptera of the family Chrysomelidae, with a short review of the tribe Chlamydini. Proceedings of the United States National Museum 20:473-485.
- LINNAEUS, C. 1758. Systema naturae per regna tria naturae secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis, edition 10, volume 1. Holmiae. 823 pages.
- LINTNER, J. A. 1887. Milkweed beetle with bad habits. The Cultivator and Country Gentleman 52:673.
- LINTNER, J. A. 1888. Fourth report on the injurious and other insects of the State of New York. Report of the New York State Museum of Natural History 41:1-237.
- LINTNER, J. A. 1891. Beet insects. The Cultivator and Country Gentleman 56:577.

- LINTNER, J. A. 1895. Tenth report on the injurious and other insects of the State of New York for the year 1894. Report of the New York State Museum 48:388-539.
- LIPPOK, B., A. A. GARDINE, P. S. WILLIAMSON, AND S. S. RENNER. 2000. Pollination by flies, bees, and beetles of *Nuphar ozarkana* and *N. advena* (Nymphaeaceae). American Journal of Botany 87(6):898-902.
- LITTLE, V. A. 1972. General and Applied Entomology, Third Edition. Harper & Row, New York. 527 pages.
- LIVINGSTON, S. B. 1996. Biology, Control, and Host Range of *Lilioceris lillii*, a New Ornamental Pest in the USA. M. S. Thesis, University of Rhode Island, Kingston, Rhode Island. 78 pages.
- LOAN, C. C. 1963. Parasitism of the dogwood flea-beetle, *Altica corni*, in Ontario. Journal of Economic Entomology 56(4):537-538.
- LOAN, C. C. 1967. Studies on the taxonomy and biology of the Euphorinae (Hymenoptera: Braconidae). I. Four new Canadian species of *Microctonus*. Annals of the Entomological Society of America 60(1):230-235.
- LOCHHEAD, W. 1913. Injurious insects of Quebec in 1912. Entomological Society of Ontario, Annual Report 43:85-87.
- LOCKE, *. 1966. Flea beetles. Cooperative Economic Insect Report 16(25):574.
- LÖDING, H. P. 1945. Catalogue of the beetles of Alabama. Geological Survey of Alabama, Monograph 11:1-172.
- LOHSE, G. A. 1989. *Hydrogaleruca*-Studien (Col. Chrysomelidae, Gattung *Galerucella* Crotch). Entomologische Blätter 85(1-2):61-69.
- LONG, W. H. AND J. R. DOGGER. 1953. The elongate flea beetle as a pest of peanuts. Journal of Economic Entomology 46(6):1115-1116.
- LOPATIN, I. K. 1984. Leaf Beetles (Chrysomelidae) of Central Asia and Kazakhstan. Amerind Publishing Co., New Delhi, India. 416 pages. [An English translation of, "Lopatin, I. K. 1977. Zhuki-Listoedy (Chrysomelidae) Srednei Azii i Kazakhstana. Akademiya Nauk Soyuz Sovetskikh Sotsialisticheskikh Respublik, Opredeliteli po Faune SSSR, Izdavaemye Zoologicheskimi Institutami Akademii Nauk SSSR 113:1-256.]
- LOUGHRAN, J. C. AND D. W. RAGSDALE. 1986. Life cycle of the bean leaf beetle, *Cerotoma trifurcata* (Coleoptera: Chrysomelidae), in southern Minnesota. Annals of the Entomological Society of America 79(1):34-38.
- LOVELL, J. H. 1915. A preliminary list of the anthophilous Coleoptera of New England. Psyche 22(4):109-117.
- LOWE, V. H. 1898a. The cottonwood leaf-beetle, *Lina scripta* Fab. New York Agricultural Experiment Station Bulletin 143:5-20.
- LOWE, V. H. 1898b. Preliminary notes on the grape-vine flea-beetle. New York Agricultural Experiment Station Bulletin 150:263-265.
- LOWRY, P. R. AND A. H. WATSON. 1929. The striped cucumber beetle. University of New Hampshire Extension Service, Press Bulletin 159:1-2.
- LOWRY, Q. S. 1918. The striped cucumber beetle, *Diabrotica vittata* Fabr., order Coleoptera; family Chrysomelidae. Connecticut Agricultural Experiment Station Bulletin 203:262-273.
- LU, W., G. G. KENNEDY, AND F. GOULD. 1997. Genetic variation in larval survival and growth response to selection by Colorado potato beetle (Coleoptera: Chrysomelidae) on tomato. Environmental Entomology 26(1):67-75.
- LU, W. AND P. LOGAN. 1993. Induction of feeding on potato in Mexican *Leptinotarsa decemlineata* (Coleoptera: Chrysomelidae). Environmental Entomology 22(4):759-765.
- LU, W. AND P. LOGAN. 1994a. Geographic variation in larval feeding acceptance and performance of *Leptinotarsa decemlineata* (Coleoptera: Chrysomelidae). Annals of the Entomological Society of America 87(4):460-469.
- LU, W. AND P. LOGAN. 1994b. Genetic variation in oviposition between and within populations of *Leptinotarsa decemlineata* (Coleoptera: Chrysomelidae). Annals of the Entomological Society of America 87(5):634-640.
- LUCK, R. F. AND G. T. SCRIVEN. 1976. The elm leaf beetle, *Pyrrhalta luteola*, in southern California: its pattern of increase and its control by introduced parasites. Environmental Entomology 5(3):409-416.
- LUCK, R. F. AND G. T. SCRIVEN. 1979. The elm leaf beetle, *Pyrrhalta luteola*, in southern California: its host preference and host impact. Environmental Entomology 8(2):307-313.
- LUDWIG, K. A. AND R. E. HILL. 1975. Comparison of gut contents of adult western and northern corn rootworms in northeast Nebraska. Environmental Entomology 4(3):435-438.
- LUGGER, O. 1889. Insects affecting poplars and willows. Minnesota Agricultural Experiment Station Bulletin 9:48-64.
- LUGGER, O. 1899. Beetles injurious to fruit-producing plants. Minnesota Agricultural Experiment Station Bulletin 66: 85-332.
- LUGINBILL, P. 1918. The southern corn rootworm and farm practices to control it. United States Department of Agriculture, Farmers' Bulletin 950:1-10.
- LUGINBILL, P. 1940. The southern corn rootworm and farm practices to control it. United States Department of Agriculture, Farmers' Bulletin 950 (revised):1-10.
- LÜHMANN, M. 1934. Beiträge zur Chrysomelidenbiologie. 1. Zur Biologie des Schneeballkäfers *Galerucella viburni* Payk. Entomologische Blätter 30(2):50-53.
- LÜHMANN, M. 1938. Beiträge zur Biologie der Chrysomeliden. 3. Beobachtungen am Knöterichblattkäfer *Gastroidea polygoni* L. Entomologische Blätter 34(4):223-226.
- LYM, R. G. 1998. The biology and integrated management of leafy spurge (*Euphorbia esula*) on North Dakota rangeland. Weed Technology 12(2):367-373.
- LYM, R. G. AND J. A. NELSON. 2000. Biological control of leafy spurge (*Euphorbia esula*) with *Aphthona* spp. along railroad right-of-ways. Weed Technology 14(3):642-646.

Literature Cited

- LYON, W. F. 1962. Flea beetles. Cooperative Economic Insect Report 12(39):1055.
- LYON, W. F. 1963a. Locust leaf miner (*Xenochalepus dorsalis*). Cooperative Economic Insect Report 13(29):822.
- LYON, W. F. 1963b. Northern corn rootworm (*Diabrotica longicornis*). Cooperative Economic Insect Report 13(43):1263.
- LYON, W. F. 1964. Locust leaf miner (*Xenochalepus dorsalis*). Cooperative Economic Insect Report 14(20):478.
- LYON, W. F. AND * CUSTER. 1963. Locust leaf miner (*Xenochalepus dorsalis*). Cooperative Economic Insect Report 13(25):674.
- MACALONEY, H. J. 1950. Family Chrysomelidae, the leaf beetles. Pages 271-279 in F. C. Craighead. Insect enemies of eastern forests. United States Department of Agriculture, Miscellaneous Publication 657.
- MACALONEY, H. J. AND H. G. EWAN. 1964. Identification of hardwood insects by type of tree injury, North-Central Region. United States Forest Service, Research Paper LS-11:1-70.
- MACCARTHY, H. R. 1953. Further evidence of tuber damage by the western potato flea beetle. Journal of Economic Entomology 46(4):688-689.
- MACCREARY, D. 1957. Flea beetles. Cooperative Economic Insect Report 7(26):510.
- MACCREARY, D. AND M. S. CONRAD. 1958a. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 8(25):534.
- MACCREARY, D. AND M. S. CONRAD. 1958b. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 8(29):629.
- MACCREARY, D. AND M. S. CONRAD. 1958c. Cucumber beetles (*Diabrotica* spp.). Cooperative Economic Insect Report 8(39):834.
- MACCREARY, D. AND M. S. CONRAD. 1958d. Flea beetles. Cooperative Economic Insect Report 8(40):847.
- MACGILLIVRAY, A. D. 1903. Aquatic Chrysomelidae and a table of the families of coleopterous larvae. New York State Museum Bulletin 68:288-331.
- MACGILLIVRAY, A. D. AND C. O. HOUGHTON. 1902. A list of insects taken in the Adirondack Mountains, New York. I. Entomological News 13(8):247-253.
- MACGREGOR, R. AND O. GUTIÉRREZ. 1983. Guía de Insectos Nocivos para la Agricultura en México. Instituto de Biología, Universidad Nacional Autónoma de México, México, Mexico. 166 pages.
- MACKIE, *. 1957. Flea beetles, Idaho. Cooperative Economic Insect Report 7(27):534.
- MACNAY, C. G. 1956. Highlights of insect occurrences in Canada, 1955. Cooperative Economic Insect Report 6(2):31-33.
- MACNAY, C. G. 1962. Highlights of the occurrence of insects and other arthropods in Canada, 1962. Cooperative Economic Insect Report 12(45):1175-1176.
- MACNAY, C. G. 1965. Highlights of the occurrence of insects and other arthropods in Canada, 1964. Cooperative Economic Insect Report 15(2):19-21.
- MACNAY, C. G. AND I. S. CREELMAN. 1958. List of insects and mites affecting tree fruits in Canada. Canada Department of Agriculture, Science Service, Entomology Division, Research Notes Series E-12:1-38.
- MADAR, I. J. 1959. Ueber die geographische Verbreitung und das interessante Vorkommen der gelbstreifigen Phyllotreten in den ostpalaearktischen Grenzgeieten. Niponius 1(2):1-7.
- MADDOX, D. M. 1968. Bionomics of an alligatorweed flea beetle, *Agasicles* sp. in Argentina. Annals of the Entomological Society of America 61(5):1299-1305.
- MADDOX, D. M., L. A. ANDRES, R. D. HENNESSEY, R. D. BLACKBURN, AND N. R. SPENCER. 1971. Insects to control alligatorweed, an invader of aquatic ecosystems in the United States. BioScience 21(19):985-991.
- MADDOX, D. M. AND M. E. RESNIK. 1968. Radioisotopes – a potential means of evaluating the host specificity of phytophagous insects. Journal of Economic Entomology 61(6):1499-1502.
- MADDOX, D. M. AND M. E. RESNIK. 1969. Determination of host specificity of the alligatorweed flea beetle, *Agasicles* n. sp., with radioisotopes. Journal of Economic Entomology 62(5):996-999.
- MADDOX, G. D. AND R. B. ROOT. 1987. Resistance to 16 diverse species of herbivorous insects within a population of goldenrod, *Solidago altissima*: genetic variation and heritability. Oecologia 72:8-14.
- MADDOX, G. D. AND R. B. ROOT. 1990. Structure of the encounter between goldenrod (*Solidago altissima*) and its diverse insect fauna. Ecology 71(6):2115-2124.
- MADSEN, H. F. AND L. B. McNELLY. 1961. Important pests of apricot. California Agricultural Experiment Station Bulletin 783:1-40.
- MAES, J. M. AND R. F. RUPPEL. 1991. El género *Cerotoma* (Coleoptera: Chrysomelidae) en Nicaragua. Revista Nicaragiense de Entomología 15:25-30.
- MAES, J. M. AND C. L. STAINES. 1991. Catálogo de los Chrysomelidae (Coleoptera) de Nicaragua. Revista Nicaragiense de Entomología 18:1-53.
- MAFRA-NETO, A. AND P. JOLIVET. 1994. Entomophagy in Chrysomelidae: adult *Aristobrotica angulicollis* (Erichson) feeding on adult meloids (Coleoptera). Pages 171-178 in P. H. Jolivet, M. L. Cox, and E. Petitpierre (eds.). Novel Aspects of the Biology of Chrysomelidae. Kluwer Academic Publishers, The Netherlands.
- MAFRA-NETO, A. AND P. JOLIVET. 1996. Cannibalism in leaf beetles. Pages 195-211 in P. H. A. Jolivet and M. L. Cox (eds.). Chrysomelidae Biology, Volume 2: Ecological Studies. SPB Academic Publishing, Amsterdam, The Netherlands.

- MAIL, G. A. AND R. W. SALT. 1933. Temperature as a possible limiting factor in the northern spread of the Colorado potato beetle. *Journal of Economic Entomology* 26(6):1068-1075.
- MALECKI, R. A., B. BLOSSEY, S. D. HIGHT, D. SCHROEDER, L. T. KOK, AND J. R. COULSON. 1993. Biological control of purple loosestrife. A case for using insects as control agents, after rigorous screening, and for integrating release strategies with research. *BioScience* 43(10):680-686.
- MALKIN, B. 1941. Additions to the Staten Island list of Coleoptera. *Proceedings of the Staten Island Institute of Arts and Sciences* 9:91-96.
- MALKIN, B. 1943. Some new records of Oregon Chrysomelidae. *The Pan-Pacific Entomologist* 19(2):74.
- MALKIN, B. 1945. A supplement to the New York State list of Coleoptera, no. 6, additions and corrections. *Journal of the New York Entomological Society* 53(2):91-116.
- MALLOCH, J. R. 1919. Notes on some species of the chrysomelid genus *Altica* (Coleoptera). *Bulletin of the Brooklyn Entomological Society* 14:123-124.
- MALTYBY, H. L. T. L. BURGER, M. C. HOLMES, AND R. DEWITT. 1973. The use of an unnatural host, *Lema trilineata trivittata*, for rearing the exotic egg parasite *Anaphes flavipes*. *Annals of the Entomological Society of America* 66(2):298-301.
- MANGUIN, S. L., R. WHITE, B. BLOSSEY, AND S. D. HIGHT. 1993. Genetics, taxonomy, and ecology of certain species of *Galerucella* (Coleoptera: Chrysomelidae). *Annals of the Entomological Society of America* 86(4):397-410.
- MANN, J. 1969. Cactus-feeding insects and mites. *United States National Museum Bulletin* 256:1-158.
- MANNERHEIM, *. 1962. Flea beetles. *Cooperative Economic Insect Report* 12(23):592.
- MANSON, G. F. 1963. The cereal leaf beetle, *Oulema melanopa* (L.), in North America. *Canada Department of Agriculture, Research Branch, Entomology Newsletter* 41(7):1-2.
- MANSON, G. F. AND H. R. BOYCE. 1968. Watch for the cereal leaf beetle. *Canada Department of Agriculture, Publication* 1353:1-4.
- MANSON, G. F., H. B. WRESSELL, J. A. BEGG, AND R. J. MCCLANAHAN. 1963. Insects of the season 1963 in southwestern Ontario. *The Canadian Insect Pest Review* 41(9):217-221.
- MARCOVITCH, S. 1916. Insects attacking weeds in Minnesota. *Report of the State Entomologist of Minnesota* 16:135-152.
- MARKS, W. D. 1964a. Striped flea beetle (*Phyllotreta striolata*). *Cooperative Economic Insect Report* 14(26):687.
- MARKS, W. D. 1964b. Striped flea beetle (*Phyllotreta striolata*). *Cooperative Economic Insect Report* 14(30):840.
- MARKS, W. D. 1964c. Striped flea beetle (*Phyllotreta striolata*). *Cooperative Economic Insect Report* 14(31):875.
- MARKS, W. D. 1965. Flea beetles. *Cooperative Economic Insect Report* 15(29):792.
- MARLATT, C. L. 1888. Notes on the sycamore leaf-beetle (*Chalmys plicata*). *The Industrialist* (Manhattan, Kansas) 28:1.
- MARLATT, C. L. 1896 (1895). The principal insect enemies of the grape. *Yearbook of the United States Department of Agriculture* 1895:385-404.
- MARLATT, C. L. 1898. The principal insect enemies of the grape. *United States Department of Agriculture, Farmers' Bulletin* 70:1-22.
- MARLATT, C. L. 1908. The imported elm leaf-beetle. (*Galerucella luteola* Müll.). *United States Department of Agriculture, Bureau of Entomology, Circular* 8(revised):1-6.
- MARQUES, R. S. A., E. S. A. MARQUES, AND P. W. PRICE. 1994. Female behavior and oviposition choices by an eruptive herbivore, *Disonycha pluriligata* (Coleoptera: Chrysomelidae). *Environmental Entomology* 23(4):887-892.
- MARSH, H. O. 1910. Biologic notes on species of *Diabrotica* in southern Texas. *United States Department of Agriculture, Bureau of Entomology, Bulletin* 82(6):76-84.
- MARSHALL, *. 1956. Locust leaf miner (*Chalepus dorsalis*). *Cooperative Economic Insect Report* 6(35):878.
- MARSHALL, J. 1926. The striped cucumber beetle, *Diabrotica vittata* Fab. *Entomological Society of Ontario, Annual Report* 56:80-83.
- MARSHALL, J. E. 1979. The larvae of British species of *Chrysolina* (Chrysomelidae). *Systematic Entomology* 4:409-417.
- MARTIN, W. D. AND G. A. HERZOG. 1987. Life history studies of the tobacco flea beetle, *Epitrix hirtipennis* (Melsheimer) (Coleoptera: Chrysomelidae). *Journal of Entomological Science* 22(3):237-244.
- MARTORELL, L. F. 1939. Insects observed in the State of Aragua, Venezuela, South America. *The Journal of Agriculture of the University of Puerto Rico* 23(4):177-232.
- MARTORELL, L. F. 1976. Annotated Food Plant Catalog of the Insects of Puerto Rico. *Agricultural Experiment Station, University of Puerto Rico, Department of Entomology. Río Piedras, Puerto Rico.* 303 pages.
- MARX, E. J. F. 1957. A review of the subgenus *Donacia* in the Western Hemisphere (Coleoptera, Donaciidae). *Bulletin of the American Museum of Natural History* 112(3):191-278.
- MASON, M. L. AND F. A. LAWSON. 1982. Biology of the American aspen beetle (Coleoptera: Chrysomelidae: *Goniocetana americana* (Schaeffer)) in the Medicine Bow National Forest, Wyoming. *Journal of the Kansas Entomological Society* 55(4):779-788.
- MASSEY, *. 1964. Colorado potato beetle (*Leptinotarsa decemlineata*). *Cooperative Economic Insect Report* 14(18):403.
- MASSEY, C. L. AND D. A. PIERCE. 1960. *Trirhabda nitidicollis*, a pest of rabbitbrush in New Mexico. *Journal of Range Management* 13(4):216-217.

Literature Cited

- MAST, G. B. 1959. Elm calligrapha (*Calligrapha scalaris*). Cooperative Economic Insect Report 9(33):757.
- MAST, G. B. 1961. A leaf beetle (*Anomoea laticlavata*). Cooperative Economic Insect Report 11(29):669.
- MATAYOSHI, *. 1970. Hawaii insect report, fruit and nuts, three-lined potato beetle (*Lema trilineata*). Cooperative Economic Insect Report 20(29):506.
- MATHESON, R. 1944. Entomology for Introductory Courses. Comstock Publishing Company, Ithaca, New York. 600 pages.
- MATHEWSON, J. A. 1963. Potato flea beetle (*Epitrix cucumeris*). Cooperative Economic Insect Report 13(25):676.
- MATHEWSON, J. A. 1968. Imported willow leaf beetle (*Plagioderia versicolora*). Cooperative Economic Insect Report 18(25):557.
- MATHEWSON, J. A. AND * COLODNEY. 1967. Flea beetles. Cooperative Economic Insect Report 17(24):512.
- MATHEWSON, J. A., T. W. KERR, * SHEEHAN, AND H. W. PEABODY. 1963. Potato flea beetle (*Epitrix cucumeris*). Cooperative Economic Insect Report 13(24):646.
- MATTHEW, D. L. AND * DOBSON. 1959. Bean leaf beetle (*Cerotoma trifurcata*). Cooperative Economic Insect Report 9(19):351.
- MAU, *. 1974. Hawaii insect report. General vegetables. Cooperative Economic Insect Report 24(19):324.
- MAULIK, S. 1937. Distributional correlation between hispine beetles and their host-plants. Proceedings of the Zoological Society of London (Series A) 107:129-159.
- MAW, M. G. 1976a. An annotated list of insects associated with Canada thistle (*Cirsium arvense*) in Canada. The Canadian Entomologist 108:235-244.
- MAW, M. G. 1976b. Biology of the tortoise beetle, *Cassida hemisphaerica* (Coleoptera: Chrysomelidae), a possible biological control agent for bladder campion, *Silene cucubalus* (Caryophyllaceae), in Canada. The Canadian Entomologist 108:945-954.
- MAW, M. G. AND W. R. STEINHAUSEN. 1980a. *Cassida azurea* (Coleoptera: Chrysomelidae) – not *C. hemisphaerica* – as a possible biological control agent of bladder campion, *Silene cucubalus* (Caryophyllaceae) in Canada. Zeitschrift für angewandte Entomologie 90:420-422.
- MAW, M. G. AND W. R. STEINHAUSEN. 1980b. Corrigendum for “Biology of the tortoise beetle, *Cassida hemisphaerica* (Coleoptera: Chrysomelidae), a possible biological control agent for bladder campion, *Silene cucubalus* (Caryophyllaceae), in Canada.” The Canadian Entomologist 112(6):639.
- MAXWELL, C. W. AND G. W. WOOD. 1961. Insects and their control. Canada Department of Agriculture, Research Branch, Publication 754:26-30.
- MAY, L. M. 1953a. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 3(8):119.
- MAY, L. M. 1953b. Banded cucumber beetle (*Diabrotica balteata*). Cooperative Economic Insect Report 3(13):213.
- MAY, L. M. AND F. E. GUTHRIE. 1954. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 4(15):294.
- MICALAY, A. C. 1965. A leaf beetle (*Colaspis favosa*). Cooperative Economic Insect Report 15(24):607.
- MICALAY, A. C. AND J. C. DENMARK. 1965. Banded cucumber beetle (*Diabrotica balteata*). Cooperative Economic Insect Report 15(6):74.
- MCATEE, W. L. 1913. [Untitled]. Proceedings of the Entomological Society of Washington 15:90-91.
- MCATEE, W. L. 1924. Mullen rosettes as winter shelters for insects. Journal of Economic Entomology 17(3):414-415.
- MCAVOY, T. J., L. T. KOK, AND W. T. MAY. 1997. Phenology of an established population of *Galerucella californiensis* (L.) and *G. pusilla* (Duft.) (Coleoptera: Chrysomelidae) on purple loosestrife, *Lythrum salicaria* L. (Lythraceae), in southwest Virginia. Biological Control 9:106-111.
- MCBRIEN, H., R. HARMSSEN, AND A. CROWDER. 1983. A case of insect grazing affecting plant succession. Ecology 64(5):1035-1039.
- MCCALLAN, E. 1954. Records of Hispinae (Coleoptera, Chrysomelidae) from Trinidad, B.W.I. Annals and Magazine of Natural History (Series 12) 7:943-946.
- MCCAULEY, D. E. 1992. Family structured patterns of mortality in the false Colorado potato beetle. Ecological Entomology 17:142-148.
- MCCAULEY, D. E. AND R. O'DONNELL. 1984. The effect of multiple mating on genetic relatedness in larval aggregations of the imported willow leaf beetle (*Plagioderia versicolora*, Coleoptera: Chrysomelidae). Behavioral Ecology and Sociobiology 15:287-291.
- MCCAULEY, D. E., M. J. WADE, F. J. BREDEN, AND M. WOHLTMAN. 1988. Spatial and temporal variation in group relatedness: evidence from the imported willow leaf beetle. Evolution 42(1):184-192.
- MCCAULEY, R. H. 1938. A revision of the genus *Microrhopala* in North America, north of Mexico. Bulletin of the Brooklyn Entomological Society 33(4):145-169.
- MCCLANAHAN, R. J., H. R. BOYCE, AND W. R. CODE. 1968. The cereal leaf beetle a new insect in Ontario. Proceedings of the Entomological Society of Ontario 98:21-26.
- MCCLAY, A. S., W. A. PALMER, F. D. BENNETT, AND K. R. PULLEN. 1995. Phytophagous arthropods associated with *Parthenium hysterophorus* (Asteraceae) in North America. Environmental Entomology 24(4):796-809.
- MCCOLLUM, * AND * SEIBELS. 1965. Flea beetles. Cooperative Economic Insect Report 15(35):997.
- MCCONNELL, W. R. 1915. A unique type of insect injury. Journal of Economic Entomology 8:261-266.

- MCCRACKEN, I. 1905. A study of the inheritance of dichromatism in *Lina lapponica*. The Journal of Experimental Zoology 2(1):117-136.
- MCCRACKEN, I. 1906. Inheritance of dichromatism in *Lina* and *Gastroidea*. Journal of Experimental Zoology 3(2): 321-336.
- MCCREA, R. J. 1973. A new species of the flea beetle genus *Chaetocnema* found on dichondra in California (Coleoptera: Chrysomelidae). The Pan-Pacific Entomologist 49(1):61-66.
- MCDANIEL, B., S. H. CLAY, AND C. SCHOLDS. 1992. Morphology of three imported *Aphthona* flea beetles used as biological control agents of leafy spurge. South Dakota State University, Agricultural Experiment Station, Technical Bulletin 98:1-55.
- MCDANIEL, E. I. 1933. Important leaf feeding and gall making insects infesting Michigan's deciduous trees and shrubs. Michigan State College, Agricultural Experiment Station, Special Bulletin 243:1-70.
- MCDONALD, *. 1968a. Corn flea beetle (*Chaetocnema pulicaria*). Cooperative Economic Insect Report 18(20):418.
- MCDONALD, *. 1968b. Potato flea beetle (*Epitrix cucumeris*). Cooperative Economic Insect Report 18(20):419.
- MCDONALD, I. C. 1989. Systematics of *Diabrotica* pests of corn (Coleoptera: Chrysomelidae). Acta Phytopathologica et Entomologica Hungarica 24(1-2):157-160.
- MCDOWELL, D. N. 1955. Pests and diseases of trees and shrubs. Wisconsin State Department of Agriculture Bulletin 330:1-88.
- MCDOWELL, D. N. 1960. Pests and diseases of trees and shrubs. Wisconsin State Department of Agriculture Bulletin 351:1-87.
- MCEVOY, P., C. COX, AND E. COOMBS. 1991. Successful biological control of ragwort, *Senecio jacobaea*, by introduced insects in Oregon. Ecological Applications 1(4):430-442.
- McFARLIN, * AND * BICKNER. 1967. A leaf beetle (*Colaspis favosa*). Cooperative Economic Insect Report 17(29):654.
- MCGAHA, Y. J. 1952. The limnological relations of insects to certain aquatic flowering plants. Transactions of the American Microscopical Society 71(1):355-381.
- MCGIFFIN, K. C. AND H. H. NEUNZIG. 1985. A guide to the identification and biology of insects feeding on muscadine and bunch grapes in North Carolina. North Carolina Agricultural Research Service Bulletin 470:1-93.
- MCGREGOR, E. A. 1917. Scientific note on beetles causing damage to cotton in Yuma Valley, Arizona. Journal of Economic Entomology 10:504.
- MCGREW, J. R. AND G. W. STILL. 1977. Control of grape diseases and insects in the eastern United States. United States Department of Agriculture, Farmers' Bulletin 1893 (revised):1-24.
- MCINDOO, N. E. 1935. The relative attractiveness of certain solanaceous plants to the Colorado potato beetle, *Leptinotarsa decemlineata* Say. Proceedings of the Entomological Society of Washington 37(2):36-42.
- MCKENZIE, H. L. 1935. Biology and control of avocado insects and mites. California Agricultural Experiment Station Bulletin 592:1-48.
- MCLEMORE, * AND C. A. BOWER. 1959. A leaf beetle (*Anomoea hoegei*). Cooperative Economic Insect Report 9(27): 609.
- MCLEOD, P. J. AND M. J. WEISS. 1992. Collection, handling and bioassay procedures for a flea beetle, *Phyllotreta cruciferae* (Coleoptera: Chrysomelidae). Journal of the Kansas Entomological Society 65(3):352-353.
- MCLOUGHLIN, * AND R. W. EVERY. 1969. A flea beetle (*Chaetocnema opacula*). Cooperative Economic Insect Report 19(44):813.
- MCPHERON, B. A. 1985. Parasitoids of the leafmining beetles *Sumitrosis inaequalis* and *S. rosea* (Coleoptera: Chrysomelidae) in east-central Illinois. Journal of the Kansas Entomological Society 58(2):367-369.
- MCPHERSON, R. M. 1983. Small insect management guidelines, number 3: cereal leaf beetle. Virginia Cooperative Extension Service, Publication 444-033 (revised):1-2.
- MCPHERSON, R. M. AND F. W. RAVLIN. 1983. Locust leaf miner development on soybean in Virginia. Journal of the Georgia Entomological Society 18(1):58-60.
- MCQUEEN, H. F. 1963a. Southern corn rootworm (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 13(18):454.
- MCQUEEN, H. F. 1963b. Flea beetles. Cooperative Economic Insect Report 13(19):488.
- MCQUEEN, H. F. 1963c. Grape flea beetle (*Altica chalybea*). Cooperative Economic Insect Report 13(21):551.
- MCQUEEN, H. F. 1963d. Tortoise beetles. Cooperative Economic Insect Report 13(21):553.
- MCQUEEN, H. F. 1963e. Bean leaf beetle (*Cerotoma trifurcata*). Cooperative Economic Insect Report 13(24):648.
- MCQUEEN, H. F. 1963f. Elm leaf beetle (*Galerucella xanthomelaena*). Cooperative Economic Insect Report 13(32):923.
- MCQUEEN, H. F. 1963g. Southern corn rootworm (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 13(44):1301.
- MCQUEEN, H. F. 1963h. Southern corn rootworm (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 13(46):1330.
- MCQUEEN, H. F. 1963i. Southern corn rootworm (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 13(46):1333.
- MCQUEEN, H. F. 1964a. Grape flea beetle (*Altica chalybea*). Cooperative Economic Insect Report 14(16):334.
- MCQUEEN, H. F. 1964b. Southern corn rootworm (*Diabrotica undecimpuncta* [sic] *howardi*). Cooperative Economic Insect Report 14(19):430.

Literature Cited

- MCQUEEN, H. F. 1964c. Bean leaf beetle (*Cerotoma trifurcata*). Cooperative Economic Insect Report 14(19):430.
- MCQUEEN, H. F. 1964d. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 14(21):512.
- MCQUEEN, H. F. 1964e. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 14(30):842.
- MCQUEEN, H. F. 1964f. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 14(32):908.
- MCQUEEN, H. F. 1964g. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 14(45):1210.
- MCQUEEN, H. F. 1965a. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 15(3):33.
- MCQUEEN, H. F. 1965b. Southern corn rootworm (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 15(46):1268.
- MCQUEEN, H. F. 1966a. Flea beetles (*Chaetocnema* spp.). Cooperative Economic Insect Report 16(17):359.
- MCQUEEN, H. F. 1966b. Locust leaf miner (*Xenochalepus dorsalis*). Cooperative Economic Insect Report 16(27):648.
- MCQUEEN, H. F. 1966c. Banded cucumber beetle (*Diabrotica balteata*). Cooperative Economic Insect Report 16(38):918.
- MCQUEEN, H. F. 1967a. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 17(11):174.
- MCQUEEN, H. F. 1967b. False potato beetle (*Leptinotarsa juncta*). Cooperative Economic Insect Report 17(16):309.
- MCQUEEN, H. F. 1967c. Bean leaf beetle (*Cerotoma trifurcata*). Cooperative Economic Insect Report 17(16):309.
- MEAD, F. W. 1964. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic INSECT REPORT 14(3):31.
- MEDVEDEV, L. N. 1996a. Chrysomelidae and radiation. Pages 403-410 in P. H. A. Jolivet and M. L. Cox (eds.). Chrysomelidae Biology, Volume 2: Ecological Studies. SPB Academic Publishing, Amsterdam, The Netherlands.
- MEDVEDEV, L. N. 1996b. Leaf beetles in the Arctic. Pages 57-62 in P. H. A. Jolivet and M. L. Cox (eds.). Chrysomelidae Biology, Volume 3: General Studies. SPB Academic Publishing, Amsterdam, The Netherlands.
- MEDVEDEV, V. L. 1998. The first record of Chrysomelidae (Coleoptera) from Severnaya Zemlya Archipelago. Russian Entomological Journal 7(1-2):41-42.
- MEEHAN, T. B. 1888. The streaked leaf-beetle in the East. Insect Life 1:51-52.
- MEINERS, T. AND M. HILKER. 2003. Chemical signaling between host plant (*Ulmus minor*) and egg parasitoid (*Oomyzus gallerucae*) of the elm leaf beetle (*Xanthogaleruca luteola*). Pages 227-241 in D. G. Furth (ed.). Special Topics in Leaf Beetle Biology, Proceedings of the Fifth International Symposium on the Chrysomelidae, 25-27 August 2000, Iguassu Falls, Brazil, XXI International Congress of Entomology. Pensoft Series Faunistica No. 29. Pensoft Publishers, Sofia, Bulgaria.
- MEISNER, J. AND B. K. MITCHELL. 1983. Phagoderterency induced by two cruciferous plants in adults of the flea beetle *Phyllotreta striolata* (Coleoptera: Chrysomelidae). The Canadian Entomologist 115:1209-1214.
- MELANDER, A. L. AND F. D. HEALD. 1916. The control of fruit pests and diseases. Washington Agricultural Experiment Station, Popular Bulletin 100:1-61.
- MELHUS, I. E., R. H. PAINTER, AND F. O. SMITH. 1954. A search for resistance to the injury caused by species of *Diabrotica* in the corns of Guatemala. Iowa State College Journal of Science 29(1):75-94.
- MELSHEIMER, F. E. 1847. Descriptions of new species of Coleoptera of the United States. Proceedings of the Academy of Natural Sciences of Philadelphia 3:158-181.
- MELVILLE, A. A., R. H. STORCH, R. J. BUSHWAY, AND A. R. ALFORD. 1985. Growth and development of the Colorado potato beetle, *Leptinotarsa decemlineata* (Coleoptera: Chrysomelidae), fed foliage of three *Solanum* species. Maine Agricultural Experiment Station, Technical Bulletin 115:1-8.
- MENA-COVARRUBIAS, J., F. A. DRUMMOND, AND D. L. HAYNES. 1996. Population dynamics of the Colorado potato beetle (Coleoptera: Chrysomelidae) on horsenettle in Michigan. Environmental Entomology 25(1):68-77.
- MENUSAN, H. 1960. A tortoise beetle (*Plagiometriona clavata*). Cooperative Economic Insect Report 10(26):557.
- MESSINA, F. J. 1981. Plant protection as a consequence of an ant-membracid mutualism: interactions on goldenrod (*Solidago* sp.). Ecology 62(6):1433-1440.
- MESSINA, F. J. 1982a. Timing of dispersal and ovarian development in goldenrod leaf beetles *Trirhabda virgata* and *T. borealis*. Annals of the Entomological Society of America 75(1):78-83.
- MESSINA, F. J. 1982b. Comparative biology of the goldenrod leaf beetles, *Trirhabda virgata* LeConte and *T. borealis* Blake (Coleoptera: Chrysomelidae). The Coleopterists Bulletin 36(2):255-269.
- MESSINA, F. J. 1982c. Food plant choices of two goldenrod beetles: relation to plant quality. Oecologia 55:342-354.
- MESSINA, F. J. 1983. Parasitism of two goldenrod beetles (Coleoptera: Chrysomelidae) by *Aplomyiopsis xylota* (Diptera: Tachinidae). Environmental Entomology 12(3):807-809.
- MESSINA, F. J. AND R. B. ROOT. 1980. Association between leaf beetles and meadow goldenrods (*Solidago* spp.) in central New York. Annals of the Entomological Society of America 73(6):641-646.
- METCALF, R. L. 1979. Plants, chemicals, and insects: some aspects of coevolution. Bulletin of the Entomological Society of America 25(1):30-35.
- METCALF, R. L. 1986a. Foreword. Pages vii-xv in J. L. Krysan and T. A. Miller (eds.). Methods for the Study of Pest *Diabrotica*. Springer-Verlag, New York.
- METCALF, R. L. 1986b. Coevolutionary adaptations of rootworm beetles (Coleoptera: Chrysomelidae) to cucurbitacins. Journal of Chemical Ecology 12(5):1109-1124.

- METCALF, R. L. 1994. Chemical ecology of Diabroticites. Pages 153-169 in P. H. Jolivet, M. L. Cox, and E. Petitpierre (eds.). Novel Aspects of the Biology of Chrysomelidae. Kluwer Academic Publishers, The Netherlands.
- METCALF, R. L. AND R. A. METCALF. 1993. Destructive and Useful Insects, their Habits and Control, Fifth Edition. McGraw-Hill, Inc., New York.
- METCALF, R. L. AND A. M. RHODES. 1990. Coevolution of the Cucurbitaceae and Luperini (Coleoptera: Chrysomelidae): basic and applied aspects. Pages 167-182 in D. M. Bates, R. W. Robinson, and C. Jeffrey (eds.). Biology and Utilization of the Cucurbitaceae. Cornell University Press, Ithaca, New York.
- METCALF, R. L., A. M. RHODES, R. A. METCALF, J. FERGUSON, E. R. METCALF, AND P. YU. 1982. Cucurbitacin contents and diabroticite (Coleoptera: Chrysomelidae) feeding upon *Cucurbita* spp. Environmental Entomology 11(4): 931-937.
- METCALF, Z. P. 1909. Insect enemies of tobacco. The Bulletin of the North Carolina Department of Agriculture 30 (Supplement to Number 10):1-72.
- METCALF, Z. P. AND G. W. UNDERHILL. 1919. The tobacco flea beetle. North Carolina Agricultural Experiment Station Bulletin 239:1-47.
- MEYER, G. A. 1993. A comparison of the impacts of leaf- and sap-feeding insects on growth and allocation of goldenrod. Ecology 74(4):1101-1116.
- MEYER, G. A. AND R. B. ROOT. 1993. Effects of herbivorous insects and soil fertility on reproduction of goldenrod. Ecology 74(4):1117-1128.
- MEYER, G. A. AND T. H. WHITLOW. 1992. Effects of leaf and sap feeding insects on photosynthetic rates of goldenrod. Oecologia 92:480-489.
- MEYER, R. W. 1979. Striped cucumber beetle (*Acalymma vittata*). Cooperative Plant Pest Report 4(18):308.
- MEYER, R. W. 1980a. Cereal leaf beetle (*Oulema melanopus*). Cooperative Plant Pest Report 5(15):286.
- MEYER, R. W. 1980b. Striped cucumber beetle (*Acalymma vittata*). Cooperative Plant Pest Report 5(16):300.
- MICHAUD, J. P. 1990. Observations on the biology of the bronze flea beetle *Altica tombacina* (Coleoptera: Chrysomelidae) in British Columbia. Journal of the Entomological Society of British Columbia 87:41-49.
- MICHELbacher, A. E., G. F. MACLEOD, AND R. F. SMITH. 1941. A preliminary report on control of the western twelve-spotted cucumber beetle in orchards. Journal of Economic Entomology 34(5):709-716.
- MICHELbacher, A. E., G. F. MACLEOD, AND R. F. SMITH. 1943. Control of diabrotica, or western spotted cucumber beetle, in deciduous fruit orchards. University of California, Agricultural Experiment Station, Bulletin 681: 1-34.
- MICHELbacher, A. E., W. W. MIDDLEKAUFF, AND O. G. BACON. 1953. Cucumber beetles attacking melons in northern California. Journal of Economic Entomology 46(3):489-494.
- MIGNOT, E. C. 1970. Taxonomic Revision of the Tribes Aspicelini and Disonychini (Coleoptera: Chrysomelidae, Alticinae) North of Mexico. Ph.D. Thesis. Purdue University, West Lafayette, Indiana. 286 pages.
- MIGNOT, E. C. 1971a. Revision of the North American species of *Dibolia* Latr. (Coleoptera: Chrysomelidae; Alticinae). Entomological News 82:17-22.
- MIGNOT, E. C. 1971b. Review of *Blepharida* Chevrolat (Chrysomelidae: Alticinae) in America north of Mexico. The Coleopterists Bulletin 25(1):9-16.
- MILANOWSKI, D. J. AND C. E. BACH. 1994. Between-site variation in suitability of *Salix cordata* as a host for *Altica subplicata* (Coleoptera: Chrysomelidae). The Great Lakes Entomologist 26(4):253-261.
- MILES, *. 1956. Banded cucumber beetle (*Diabrotica balteata*). Cooperative Economic Insect Report 6(35):878.
- MILLER, A. R. 1975. Larger elm leaf beetle (*Monocesta coryli*). Cooperative Economic Insect Report 25(35):726.
- MILLER, F. AND G. WARE. 1994. Preference for and suitability of selected elms, *Ulmus* spp. and their hybrids for the elm leaf beetle, (*Pyrhalta luteola* Coleoptera: Chrysomelidae). Journal of Environmental Horticulture 14(4): 231-235.
- MILLER, F. AND G. WARE. 1997. Preference for and suitability of Asian elm species and hybrids for the adult elm leaf beetle (Coleoptera: Chrysomelidae). Journal of Economic Entomology 90(6):1641-1645.
- MILLER, F. AND G. WARE. 1999. Resistance of elms of the *Ulmus davidiana* complex to defoliation by the adult elm leaf beetle (Coleoptera: Chrysomelidae). Journal of Economic Entomology 92(5):1147-1150.
- MILLIRON, H. E. 1953a. A European flea beetle injuring crucifers in North America. Journal of Economic Entomology 46(1):179.
- MILLIRON, H. E. 1953b. Summary of insect conditions – 1952, Delaware. Cooperative Economic Insect Report 3(11): 174-177.
- MILLIRON, H. E. 1954. Summary of insect conditions – 1953, Delaware. Cooperative Economic Insect Report 4(7): 134-137.
- MILLIRON, H. E. 1955a. Bean leaf beetle (*Cerotoma trifurcata*). Cooperative Economic Insect Report 5(15):317.
- MILLIRON, H. E. 1955b. Spinach flea beetle (*Disonycha xanthomelas*). Cooperative Economic Insect Report 5(23):516.
- MILLIRON, H. E. 1955c. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 5(25):573.
- MILLIRON, H. E. 1955d. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 5(27):626.
- MILLIRON, H. E. 1955e. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 5(27):629.

Literature Cited

- MILLIRON, H. E. 1955f. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 5(29):680.
- MILLIRON, H. E. 1955g. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 5(30):711.
- MILLIRON, H. E. 1955h. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 5(33):797.
- MILLIRON, H. E. 1955i. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 5(34):820.
- MILLIRON, H. E. 1955j. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 5(36):867.
- MILLIRON, H. E. 1956a. Summary of insect conditions, Delaware. Cooperative Economic Insect Report 6(1):6-10.
- MILLIRON, H. E. 1956b. Bean leaf beetle (*Cerotoma trifurcata*). Cooperative Economic Insect Report 6(17):347.
- MILLIRON, H. E. 1956c. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 6(28):664.
- MILLIRON, H. E. 1956d. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 6(30):726.
- MILLIRON, H. E. 1957a. Flea beetles. Cooperative Economic Insect Report 7(18):335.
- MILLIRON, H. E. 1957b. Cucumber beetles. Cooperative Economic Insect Report 7(26):512.
- MILLIRON, H. E. 1957c. Flea beetles. Cooperative Economic Insect Report 7(28):555.
- MILLIRON, H. E. 1957d. Summary of insect conditions - 1957, Delaware. Cooperative Economic Insect Report 7(49):911-915.
- MILLIRON, H. E. 1958. Economic insect and allied pests of Delaware. University of Delaware, Agricultural Experiment Station, Bulletin 321:1-87, i-xvi.
- MILLIRON, H. E. AND M. S. CONRAD. 1957a. Cucumber beetles. Cooperative Economic Insect Report 7(32):643.
- MILLIRON, H. E. AND M. S. CONRAD. 1957b. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 7(33):667.
- MILLIRON, H. E. AND M. S. CONRAD. 1957c. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 7(35):706.
- MILLIRON, H. E. AND M. S. CONRAD. 1957d. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 7(41):809.
- MILLIRON, H. E. AND M. S. CONRAD. 1957e. Cucumber beetles. Cooperative Economic Insect Report 7(43):838.
- MILLIRON, H. E. AND M. S. CONRAD. 1957f. Cucumber beetles. Cooperative Economic Insect Report 7(45):861.
- MILLIRON, H. E. AND W. M. HANTSBARGER. 1955. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 5(32):764.
- MILLS, W. D. AND J. E. DEWEY. 1934. Diseases and insects of small fruits. Cornell Extension Bulletin 306:1-56.
- MILLS, W. D. AND A. A. LAPLANTE. 1952. Diseases and insects of small fruits. Cornell Extension Bulletin 306 (revised):1-55.
- MITCHELL, B. K. 1978. Some aspects of gustation in the larval red turnip beetle, *Entomoscelis americana*, related to feeding and host selection. Entomologia Experimentalis et Applicata 24:340-349.
- MITCHELL, B. K. 1994. The chemosensory basis of host-plant recognition in Chrysomelidae. Pages 141-151 in P. H. Jolivet, M. L. Cox, and E. Petitpierre (eds.). Novel Aspects of the Biology of Chrysomelidae. Kluwer Academic Publishers, The Netherlands.
- MITTER, C., B. FARRELL, AND D. J. FUTUYMA. 1991. Phylogenetic studies of insect-plant interactions: insights into the genesis of diversity. Trends in Ecology & Evolution 6(9):290-293.
- MIYAHIRA, *. 1966a. Hawaii insect report, general vegetables. Cooperative Economic Insect Report 16(15):315.
- MIYAHIRA, *. 1966b. Hawaii insect report, fruits and nuts. Cooperative Economic Insect Report 16(30):740.
- MIYAHIRA, * AND * TSUHA. 1967. Hawaii insect report, vegetables. Cooperative Economic Insect Report 17(29):660.
- MOHAMEDSAID, M. S. 1984. A new name for *Altica pontenillae* Brown (Coleoptera: Chrysomelidae). The Coleopterists Bulletin 38(3):248.
- MOHR, K. 1966. Familie: Chrysomelidae. Pages 95-299 in H. Freude, K. W. Harde, and G. A. Lohse. Die Käfer Mitteleuropas, Band 9. Goecke & Evers, Krefeld, Germany.
- MOHYUDDIN, A. I. 1969a. Insects from *Calystegia* spp. and *Convolvulus* spp. Technical Bulletin of the Commonwealth Institute of Biological Control 11:93-104.
- MOHYUDDIN, A. I. 1969b. The biology and host spectrum of some stenophagous insects found on *Convolvulus* and *Calystegia* spp. at Belleville, Ontario. Technical Bulletin of the Commonwealth Institute of Biological Control 12:131-146.
- MOLDENKE, A. R. 1970. A Revision of the Clytrinae of North America North of the Isthmus of Panama (Coleoptera: Chrysomelidae). Stanford University, Stanford, California. 310 pages.
- MOLDENKE, A. R. 1971. Host-plant relations of phytophagous beetles in Mexico (Coleoptera: Bruchidae, Chrysomelidae, Curculionidae). The Pan-Pacific Entomologist 47(2):105-116.
- MÖLLEKEN, H. AND W. TOPP. 1997. Die Insektenfauna auf Silberweiden (*Salix alba* L.): Einfluß de Geschlechts und der Pflegemaßnahmen. Zeitschrift für Ökologie und Naturschutz 6:193-206.
- MONRÓS, F. 1954. Revision of the chrysomelid subfamily Aulacoscelinae. Bulletin of the Museum of Comparative Zoology 112(4):321-360.

- MONRÓS, F. 1955. On some new genera of Nearctic Chrysomelinae (Chrysomelidae). *The Coleopterists' Bulletin* 9(4): 53-60.
- MONRÓS, F. 1959a. Los géneros de Chrysomelidae (Coleoptera). *Opera Lilloana* 3:1-336.
- MONRÓS, F. 1959b. Notas sobre Chrysomelidae (Coleoptera). *Acta Zoológica Lilloana* 17:1-24.
- MOORE, I. 1937. A list of the beetles of San Diego County, California. *San Diego Society of Natural History, Occasional Papers* 2:1-109.
- MOORE, T. B., R. STEVENS, AND E. D. MCARTHUR. 1982. Preliminary study of some insects associated with rangeland shrubs with emphasis on *Kochia prostrata*. *Journal of Range Management* 35(1):128-130.
- MORENO, I. AND F. F. BIBBY. 1943. Ynsectos [sic] del algodón y otras malváceas en las regiones de Matamoros, Tams. y del Valle Bajo del Río Bravo, Texas-E.U.A. *Fitófilo* 2(1):20-60, 62-110.
- MORGAN, A. C. 1911 (1910). Insect enemies of tobacco in the United States. *United States Department of Agriculture, The Yearbook of Agriculture* 1910:281-296.
- MORGAN, A. C. AND J. U. GILMORE. 1924. The tobacco flea-beetle in the dark fire-cured tobacco district of Kentucky and Tennessee. *United States Department of Agriculture, Farmers' Bulletin* 1425:1-11.
- MORGAN, L. W. 1953. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). *Cooperative Economic Insect Report* 3(9):134.
- MORIHARA, D. K. AND E. U. BALSBAUGH. 1976. Phytophagous insects collected on musk thistle, *Carduus nutans*, in southeastern South Dakota. *Environmental Entomology* 5(4):692-696.
- MORIYA, S. 1999. Successive rearing of ragweed beetle, *Ophraella communa* LeSage (Coleoptera: Chrysomelidae) in Japan. *Annual Report of the Kanto-Tosan Plant Protection Society* 46:115-117.
- MORIYA, S. AND S. SHIYAKE. 2001. Spreading the distribution of an exotic ragweed beetle, *Ophraella communa* LeSage (Coleoptera: Chrysomelidae), in Japan. *Japanese Journal of Entomology (New Series)* 4(3):99-102.
- MORRILL, A. W. 1917. Report of the Entomologist of the Arizona Commission of Agriculture and Horticulture, for the year ending June 30, 1917. *Arizona Commission of Agriculture and Horticulture, Annual Report* 9:15-61.
- MORRIS, A. P. 1956. Summary of insect conditions – 1955, Virginia. *Cooperative Economic Insect Report* 6(8):158-165.
- MORRIS, A. P. 1958. Summary of insect conditions – 1957, Virginia. *Cooperative Economic Insect Report* 8(9):152-156.
- MORRIS, A. P. 1959. Summary of insect conditions – 1958, Virginia. *Cooperative Economic Insect Report* 9(7):95-98.
- MORRIS, F. J. A. 1911 (1910). Beetles found about foliage. *Entomological Society of Ontario, Annual Report* 41:45-51.
- MORRIS, F. J. A. 1913. Chrysomelians of Ontario. *The Canadian Entomologist* 45(11):384-392.
- MORRIS, F. J. A. 1914a. Chrysomelians of Ontario. *The Canadian Entomologist* 46(1):4-13.
- MORRIS, F. J. A. 1914b (1913). Chrysomelians of Ontario. *Entomological Society of Ontario, Annual Report* 44:83-94.
- MORRIS, F. J. A. 1916. Division No. 5, Port Hope District. *Entomological Society of Ontario, Annual Report* 46:17-21.
- MORRIS, R. C. 1956. Leaf beetle damages cottonwood trees in delta. *Mississippi Agricultural Experiment Station, Information Sheet* 537:1-2.
- MORRIS, R. C. 1958. Insect pests of cottonwood reproduction. *Mississippi Agricultural Experiment Station, Information Sheet* 591:1-2.
- MORRIS, W. F., S. D. WISER, AND B. KLEPETKA. 1992. Causes and consequences of spatial aggregation in the phytophagous beetle *Altica tombacina*. *Journal of Animal Ecology* 61:49-58.
- MORRISON, H. E. 1960a. Western spotted cucumber beetle (*Diabrotica undecimpunctata*). *Cooperative Economic Insect Report* 10(20):383.
- MORRISON, H. E. 1960b. Western spotted cucumber beetle (*Diabrotica undecimpunctata*). *Cooperative Economic Insect Report* 10(24):491.
- MORRISON, H. E. 1960c. Western spotted cucumber beetle (*Diabrotica undecimpunctata*). *Cooperative Economic Insect Report* 10(32):738.
- MORRISON, H. E. 1961a. Cucumber beetles. *Cooperative Economic Insect Report* 11(21):428.
- MORRISON, H. E. 1961b. Flea beetles. *Cooperative Economic Insect Report* 11(31):722.
- MORRISON, H. E. 1962. Western spotted cucumber beetle (*Diabrotica undecimpunctata undecimpunctata*). *Cooperative Economic Insect Report* 12(40):1074.
- MORRISON, H. E., L. G. GENTNER, R. F. KOONTZ, AND R. W. EVERY. 1967. The changing role of soil pests attacking potato tubers. *American Potato Journal* 44(4):137-144.
- MORRISON, K. D., E. G. REEKIE, AND K. I. N. JENSEN. 1998. Biocontrol of common St. Johnswort (*Hypericum perforatum*) with *Chrysolina hyperici* and a host-specific *Colletotrichum gloeosporioides*. *Weed Technology* 12: 426-435.
- MORROW, P. A., D. W. TONKYN, AND R. J. GOLDBURG. 1989. Patch colonization by *Trirhabda canadensis* (Coleoptera: Chrysomelidae): effects of plant species composition and wind. *Oecologia* 81:43-50.
- MORTON, T. C. AND F. V. VENCL. 1998. Larval beetles form a defense from recycled host-plant chemicals discharged as fecal wastes. *Journal of Chemical Ecology* 24(5):765-785.
- MOTSENBOCKER, *. 1954. Striped cucumber beetle (*Acalymma vittata*). *Cooperative Economic Insect Report* 4(29):658.
- MOURA, L. DE A. 1998. Revisão do gênero *Neolochmaea* (Coleoptera, Chrysomelidae, Galerucinae, Galerucini). *Iheringia (Sér. Zool.)*:85:169-188.

Literature Cited

- MOWBRAY, *, * DELAPLANE, * ALBRITTON, AND A. C. BROWN. 1965. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 15(45):1246.
- MOZNETTE, G. F. 1916. The fruit-tree leaf syneta, spraying data and biological notes. *Journal of Economic Entomology* 9:458-461.
- MOZNETTE, G. F. 1917. The rose flea-beetle (*Haltica probata* Fall). *Pomona College Journal of Entomology and Zoology* 9:13-18.
- MUELLER, A. J. AND A. W. HADDOX. 1980. Observations on seasonal development of bean leaf beetle, *Cerotoma trifurcata* (Forster) and incidence of bean pod mottle virus in Arkansas soybean. *Journal of the Georgia Entomological Society* 15(4):398-403.
- MÜLLER, C. AND M. HILKER. 2003. The advantages and disadvantages of larval abdominal shields on the Chrysomelidae: mini-review. Pages 243-259 in D. G. Furth (ed.). *Special Topics in Leaf Beetle Biology*, Proceedings of the Fifth International Symposium on the Chrysomelidae, 25-27 August 2000, Iguassu Falls, Brazil, XXI International Congress of Entomology. Pensoft Series Faunistica No. 29. Pensoft Publishers, Sofia, Bulgaria.
- MÜLLER, O. F. 1764. *Fauna insectorum Fridrichsdalina, sive methodica descriptio insectorum agri Fridrichsdalensis, cum characteribus genericis et specificis, nominibus trivialibus, locis natalibus, iconibus allegatis novisque pluribus speciebus additis*. Gleditsch, Hafniae et Lipsiae. i-xxiv + 96 pages.
- MULLETT, R. P. 1952. Grape colaspis (*Colaspis flavida*). Cooperative Economic Insect Report 2(21):294.
- MULLETT, R. P. 1954. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 4(24):522.
- MULLINS, A. J. 1976a. Food-plants of *Odontota dorsalis* (Thunberg) (Coleoptera, Chrysomelidae). *The Coleopterists Bulletin* 30(1):84.
- MULLINS, A. J. 1976b. Notes on the life history and ecology of *Calligrapha spiraeae* (Say) (Coleoptera: Chrysomelidae). *The Coleopterists Bulletin* 30(3):299-301.
- MUMMERY, R. S. AND L. R. G. VALADON. 1974. Carotenoids of the lily beetle (*Lilioceris lili*) and of its food plant (*Lilium hansonii*). *Journal of Insect Physiology* 20:429-433.
- MUNROE, D. D. AND R. F. SMITH. 1980. A revision of the systematics of *Acalymma sensu stricto* Barber (Coleoptera: Chrysomelidae) from North America including Mexico. *Memoirs of the Entomological Society of Canada* 112:1-92.
- MUNSON, R. E. 1970. Western corn rootworm (*Diabrotica virgifera*). Cooperative Economic Insect Report 20(30):513.
- MUNSON, R. E., G. W. THOMAS, AND F. E. WOOD. 1961. Northern corn rootworm (*Diabrotica longicornis*). Cooperative Economic Insect Report 11(36):842.
- MUNSON, R. E., G. W. THOMAS, AND F. E. WOOD. 1962a. A flea beetle (*Blepharida rhois*). Cooperative Economic Insect Report 12(21):528.
- MUNSON, R. E., G. W. THOMAS, AND F. E. WOOD. 1962b. A leaf beetle (*Anomoea laticlavata*). Cooperative Economic Insect Report 12(26):704.
- MURDOCK, * AND T. B. MITCHELL. 1954. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 4(21):438.
- MURTFELDT, M. E. 1888. Life-history of *Graptodera foliacea* Lec. *Insect Life* 1(3):74-75.
- MURTFELDT, M. E. 1890. Entomological notes from Missouri for the season of 1889. United States Department of Agriculture, Division of Entomology, Bulletin 22:73-84.
- MUSGROVE, *. 1965. A flea beetle (*Altica litigata*). Cooperative Economic Insect Report 15(49):1302.
- MUTCHLER, A. J. AND H. B. WEISS. 1926. Leaf-beetles of the genus *Galerucella* known to inhabit New Jersey. New Jersey Department of Agriculture, Circular 98:1-16.
- NARANJO, S. E. AND A. J. SAWYER. 1987. Reproductive biology and survival of *Diabrotica barberi* (Coleoptera: Chrysomelidae): effect of temperature, food, and seasonal time of emergence. *Annals of the Entomological Society of America* 80(6):841-848.
- NAULT, L. R., W. E. STYER, M. E. COFFEY, D. T. GORDON, L. S. NEGI, AND C. L. NIBLETT. 1978. Transmission of maize chlorotic virus by chrysomelid beetles. *Phytopathology* 68:1071-1074.
- NEAL, J. J., J. C. STEFFENS, AND W. M. TINGEY. 1989. Glandular trichomes of *Solanum berthaultii* and resistance to the Colorado potato beetle. *Entomologia Experimentalis et Applicata* 51:133-140.
- NEAL, J. W. 1989. Bionomics of immature stages and ethology of *Neochlamisus platani* (Coleoptera: Chrysomelidae) on American sycamore. *Annals of the Entomological Society of America* 82(1):64-72.
- NECK, R. W. 1983. Foodplant ecology and geographical range of the Colorado potato beetle and a related species (*Leptinotarsa* spp.) (Coleoptera: Chrysomelidae). *The Coleopterists Bulletin* 37(2):177-182.
- NEEDHAM, J. G. 1908. Appendix III. Notes on the aquatic insects of Walnut Lake, with especial reference to a few species of considerable importance as fish food. Pages 252-271 in T. L. Hankinson. Report of the Board of Geological Survey of Michigan for 1907 on the Biology of Walnut Lake. Wynkoop Hallenbeck Crawford Company, Lansing, Michigan.
- NEEDHAM, J. G. 1948. Ecological notes on the insect population of the flower heads of *Bidens pilosa*. *Ecological Monographs* 18(3):431-446.
- NEEDHAM, J. G., S. W. FROST, AND B. H. TOTHILL. 1928. *Leaf-mining Insects*. The Williams and Wilkins Company, Baltimore, Maryland. 351 pp.
- NEGLEY, *. 1963. A leaf beetle (*Anomoea laticlavata*). Cooperative Economic Insect Report 13(29):833.

- NEILSON, C. L. 1949. A new record of a flea beetle, *Chaetocnema* sp., on corn in British Columbia. The Canadian Entomologist 81:282.
- NEILSON, C. L. AND D. G. FINLAYSON. 1953. Notes on the biology of the tuber flea beetle, *Epitrix tuberis* Gentner (Coleoptera: Chrysomelidae), in the interior of British Columbia. The Canadian Entomologist 85:31-32.
- NEISWANDER, C. R. 1931. The sources of American corn insects. Ohio Agricultural Experiment Station Bulletin 473: 1-98.
- NEISWANDER, R. B. 1944. Insect pests of strawberries in Ohio. Ohio Agricultural Experiment Station Bulletin 651:1-37.
- NETTLES, W. C. 1957. Banded cucumber beetle (*Diabrotica balteata*). Cooperative Economic Insect Report 7(35):704.
- NETTLES, W. C. 1959. Banded cucumber beetle (*Diabrotica balteata*). Cooperative Economic Insect Report 9(39):882.
- NETTLES, W. C. 1961a. A chrysomelid (*Nodonota tristis*). Cooperative Economic Insect Report 11(26):579.
- NETTLES, W. C. 1961b. Elongate flea beetle (*Systena elongata*). Cooperative Economic Insect Report 11(48):1087.
- NETTLES, W. C. 1969. Mottled tortoise beetle (*Deloyala guttata*). Cooperative Economic Insect Report 19(39):755.
- NETTLES, W. C., V. M. KIRK, J. H. COCHRAN, T. E. SKELTON, N. ALLEN, W. J. REID, L. M. SPARKS, R. L. WALKER, C. A. THOMAS, J. A. BERLY, L. H. SENN, T. R. ADKINS, J. K. REED, E. W. KING, AND F. MCALISTER. 1958. Summary of insect conditions – 1957, South Carolina. Cooperative Economic Insect Report 8(6):96-100.
- NEWCOMER, E. J. 1941. Orchard insects of the Pacific Northwest and their control. United States Department of Agriculture, Circular 270 (revised):1-80.
- NEWCOMER, E. J. 1966. Insect pests of deciduous fruits in the West. United States Department of Agriculture, Agricultural Research Service, Agriculture Handbook 306:1-57.
- NEWELL, W. AND R. I. SMITH. 1905. Insects of the year 1904 in Georgia. United States Department of Agriculture, Bureau of Entomology, Bulletin 52:69-73.
- NEWSOM, L. D. 1962. Banded cucumber beetle (*Diabrotica balteata*). Cooperative Economic Insect Report 12(27):722.
- NEWSOM, L. D. 1963a. Bean leaf beetle (*Cerotoma trifurcata*). Cooperative Economic Insect Report 13(13):280.
- NEWSOM, L. D. 1963b. Banded cucumber beetle (*Diabrotica balteata*). Cooperative Economic Insect Report 13(20): 512.
- NEWSOM, L. D. 1963c. A leaf beetle (*Colaspis lata*). Cooperative Economic Insect Report 13(20):512.
- NEWSOM, L. D. 1963d. Pale striped flea beetle (*Systena blanda*). Cooperative Economic Insect Report 13(20):521.
- NEWSOM, L. D. 1963e. Banded cucumber beetle (*Diabrotica balteata*). Cooperative Economic Insect Report 13(20): 521.
- NEWSOM, L. D. 1963f. Bean leaf beetle (*Cerotoma trifurcata*). Cooperative Economic Insect Report 13(36):1046.
- NEWSOM, L. D. 1963g. Banded cucumber beetle (*Diabrotica balteata*). Cooperative Economic Insect Report 13(36): 1050.
- NEWSOM, L. D. 1963h. Flea beetles. Cooperative Economic Insect Report 13(36):1050.
- NEWSOM, L. D. 1963i. Cucumber beetles. Cooperative Economic Insect Report 13(36):1050.
- NEWSOM, L. D. AND E. C. BURNS. 1954a. Banded cucumber beetle (*Diabrotica balteata*). Cooperative Economic Insect Report 4(26):569.
- NEWSOM, L. D. AND E. C. BURNS. 1954b. Bean leaf beetle (*Cerotoma trifurcata*). Cooperative Economic Insect Report 4(27):598.
- NEWSOM, L. D. AND E. A. CANCIENNE. 1961a. Southern corn rootworm (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 11(22):449.
- NEWSOM, L. D. AND E. A. CANCIENNE. 1961b. Banded cucumber beetle (*Diabrotica balteata*). Cooperative Economic Insect Report 11(22):449.
- NEWSOM, L. D. AND E. A. CANCIENNE. 1961c. Leaf beetles (*Maecolaspis* spp.). Cooperative Economic Insect Report 11(28):623-624.
- NEWSOM, L. D. AND J. B. CHAPIN. 1961a. Cucumber beetles (*Diabrotica* spp.). Cooperative Economic Insect Report 11(41):947.
- NEWSOM, L. D. AND J. B. CHAPIN. 1961b. Cucumber beetles (*Diabrotica* spp.). Cooperative Economic Insect Report 11(42):962.
- NEWSOM, L. D. AND J. B. CHAPIN. 1961c. Banded cucumber beetle (*Diabrotica balteata*). Cooperative Economic Insect Report 11(42):968.
- NEWSOM, L. D. AND J. B. CHAPIN. 1961d. Banded cucumber beetle (*Diabrotica balteata*). Cooperative Economic Insect Report 11(43):986.
- NEWTON, H. C. F. 1928. The biology of flea-beetles (*Phyllotreta*) attacking cultivated Cruciferae. Journal of the South-Eastern Agricultural College, Wye, Kent 25:90-115.
- NEWTON, H. C. F. 1929. Observations on the biology of some flea-beetles of economic importance. Journal of the South-Eastern Agricultural College, Wye, Kent 26:145-164.
- NEWTON, H. C. F. 1933. On the biology of some species of *Longitarsus* (Col., Chrysom.) living on ragwort. Bulletin of Entomological Research 24(4):511-520.
- NICKELS, C. B. 1949. Some minor insect pests of pecan in Texas. Journal of Economic Entomology 42(6):994-995.
- NICOLAY, A. S. 1919. Additions to insects of New Jersey No. 7. Entomological News 30:276-279.
- NICOLAY, A. S. AND H. B. WEISS. 1918. Notes on *Chalepus rubra* Web., in New Jersey. The Canadian Entomologist 50: 398-400.

Literature Cited

- NIELSEN, G. 1958. Summary of insect conditions – 1958, New Mexico. Cooperative Economic Insect Report 8(49): 984-988.
- NIELSEN, J. K. 1988. Crucifer-feeding Chrysomelidae: mechanisms of host plant finding and acceptance. Pages 25-40 in P. Jolivet, E. Petitpierre, and T. H. Hsiao (eds.). Biology of Chrysomelidae. Kluwer Academic Publishers, The Netherlands.
- NIEMCZYK, H. D. AND G. E. GUYER. 1963. The distribution, abundance and economic importance of insects affecting red and mammoth clover in Michigan. Michigan State University, Agricultural Experiment Station, Department of Entomology, Technical Bulletin 293:1-38.
- NISHIDA, G. M. 2002. Hawaiian terrestrial arthropod checklist, fourth edition. Bishop Museum Technical Report 22: 1-313.
- NIXON, I. L. 1905. Injurious insects, grape root worm, *Fidia viticida* Walsh. Report of the New York State Entomologist 20:1-19.
- NOGUERA, F. A. 1988. Hispinae y Cassidinae (Coleoptera: Chrysomelidae) de Chamela, Jalisco, México. Folia Entomológica Mexicana 77:277-311.
- NOKKALA, C. AND S. NOKKALA. 1989. Chromosomal polymorphisms in *Galerucella nymphaeae* (L.) (Chrysomelidae, Coleoptera) in Finland. Hereditas 111:133-144.
- NOKKALA, C. AND S. NOKKALA. 1994. Sympatric speciation in *Galerucella*. Pages 259-262 in P. H. Jolivet, M. L. Cox, and E. Petitpierre (eds.). Novel Aspects of the Biology of Chrysomelidae. Kluwer Academic Publisher, The Netherlands.
- NOKKALA, C. AND S. NOKKALA. 1998. Species and habitat races in the chrysomelid *Galerucella nymphaeae* species complex in northern Europe. Entomologia Experimentalis et Applicata 89:1-13.
- NOKKALA, C., S. NOKKALA, AND A. NORDELL-PAAVOLA. 1998. European and North American populations of *Galerucella nymphaeae* (Coleoptera: Chrysomelidae): two separate species revealed by chorion polypeptide analysis. European Journal of Entomology 95:269-274.
- NORRIS, R. F. AND M. KOGAN. 2000. Interactions between weeds, arthropod pests, and their natural enemies in managed ecosystems. Weed Science 48:94-158.
- NOTMAN, H. 1921. Concerning species, with notes on *Phytodecta affinis* Gyll. and *pallidus* Linn. Bulletin of the Brooklyn Entomological Society 16(3-4):75-78.
- NOWIERSKI, R. M., G. J. MCDERMOTT, J. E. BUNNELL, B. C. FITZGERALD, AND Z. ZENG. 1996. Isozyme analysis of *Aphthona* species (Coleoptera: Chrysomelidae) associated with different *Euphorbia* species (Euphorbiaceae) and environmental types in Europe. Annals of the Entomological Society of America 89(6):858-868.
- O'BRIEN, P. Y. AND P. R. ATSATT. 1982. Life history and general bionomics of *Trirhabda sericotrachyla* Blake (Coleoptera: Chrysomelidae) in southern California. The Pan-Pacific Entomologist 58(2):139-152.
- ODE, *. 1972. Potato flea beetle (*Epitrix cucumeris*). Cooperative Economic Insect Report 22(24):356.
- ODOM, *. 1963. Corn silk beetle (*Luperodes brunneus*). Cooperative Economic Insect Report 13(30):847.
- OLCKERS, T. AND P. E. HULLEY. 1994. Resolving ambiguous results of host-specificity tests: the case of two *Leptinotarsa* species (Coleoptera: Chrysomelidae) for biological control of *Solanum elaeagnifolium* Cavanilles (Solanaceae) in South Africa. African Entomology 2(2):137-144.
- OLCKERS, T. AND H. G. ZIMMERMANN. 1991. Biological control of silverleaf nightshade, *Solanum elaeagnifolium*, and bugweed, *Solanum mauritanium*, (Solanaceae) in South Africa. Agriculture, Ecosystems and Environment 37: 137-155.
- OLCKERS, T., H. G. ZIMMERMANN, AND J. H. HOFFMANN. 1995. Interpreting ambiguous results of host-specificity tests in biological control of weeds: assessment of two *Leptinotarsa* species (Chrysomelidae) for the control of *Solanum elaeagnifolium* (Solanaceae) in South Africa. Biological Control 5:336-344.
- OLIVER, A. D. 1955a. Southern corn rootworm (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 5(14):292.
- OLIVER, A. D. 1955b. Southern corn rootworm (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 5(19):402.
- OLIVER, A. D. 1955c. Southern corn rootworm (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 5(21):454.
- OLIVER, A. D. 1955d. A colaspis. Cooperative Economic Insect Report 5(28):648.
- OLIVER, A. D. 1955e. Bean leaf beetle (*Cerotoma trifurcata*). Cooperative Economic Insect Report 5(30):711.
- OLIVER, A. D. 1955f. Banded cucumber beetle (*Diabrotica balteata*). Cooperative Economic Insect Report 5(33):793.
- OLIVER, A. D. 1956a. Southern corn rootworm (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 6(8):141.
- OLIVER, A. D. 1956b. Southern corn rootworm (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 6(9):169.
- OLIVER, A. D. 1956c. Cucumber beetles. Cooperative Economic Insect Report 6(35):874.
- OLIVER, A. D. 1956d. Banded cucumber beetle (*Diabrotica balteata*). Cooperative Economic Insect Report 6(41):981.
- OLIVER, A. D. 1957a. Southern corn rootworm (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 7(11):191.
- OLIVER, A. D. 1957b. Southern corn rootworm (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect

- Report 7(16):303.
- OLIVER, A. D. 1958. Summary of insect conditions – 1957, Louisiana. Cooperative Economic Insect Report 8(3):43-46.
- OLIVER, A. D. AND J. B. CHAPIN. 1980. The cranberry rootworm: adult seasonal history, and factors affecting its status as a pest of woody ornamentals in Louisiana. *Journal of Economic Entomology* 73(1):96-100.
- OLIVER, A. D. AND J. B. CHAPIN. 1983. Biology and distribution of the yellowmargined leaf beetle, *Microtheba ochroloma* Stål, with notes on *M. picea* (Guérin) (Coleoptera: Chrysomelidae) in Louisiana. *Journal of the Georgia Entomological Society* 18(2):229-234.
- OLIVER, A. D., F. P. CUTHBERT, AND W. J. REID. 1955. Banded cucumber beetle (*Diabrotica balteata*). Cooperative Economic Insect Report 5(40):944.
- OLIVER, A. D. AND * DICKINSON. 1957. Southern corn rootworm (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 7(9):154.
- OLIVERIA, F. L. AND D. T. COOPER. 1977. Tolerance of cottonwood to damage by cottonwood leaf beetle. Southern Forest Tree Improvement Conference 14:213-217.
- OLIVIER, A. G. 1808. Entomologie, ou Histoire Naturelle des Insectes, avec leurs Caractères Génériques et Spécifiques, leur Description, leur Synonymie, et leur Figure Enluminée. Coléoptères, Volume 6.
- OLMSTEAD, K. L. 1994. Waste products as chrysomelid defenses. Pages 311-318 in P. H. Jolivet, M. L. Cox, and E. Petitpierre (eds.). *Novel Aspects of the Biology of Chrysomelidae*. Kluwer Academic Publishers, The Netherlands.
- OLMSTEAD, K. L. 1996. Cassidine defenses and natural enemies. Pages 3-21 in *Chrysomelidae Biology*, Volume 2: Ecological Studies. SPB Academic Publishing, Amsterdam, The Netherlands.
- OLMSTEAD, K. L. AND R. F. DENNO. 1992. Cost of shield defence for tortoise beetles (Coleoptera: Chrysomelidae). *Ecological Entomology* 17:237-243.
- OLMSTEAD, K. L. AND R. F. DENNO. 1993. Effectiveness of tortoise beetle larval shields against different predator species. *Ecology* 74(5):1394-1405.
- OLSON, *. 1963. Potato flea beetle (*Epitrix cucumeris*). Cooperative Economic Insect Report 13(30):847.
- OMER-COOPER, J. AND P. MILES. 1951. On *Lema trilineata* – a beetle closely resembling the tobacco slug, attacking the Cape gooseberry. *South African Journal of Science* 47(12):330-333.
- ONSTAD, D. W., D. W. CRWODER, S. A. ISARD, E. LEVINE, J. L. SPENCER, M. E. O'NEAL, S. T. RATCLIFFE, M. E. GRAY, L. W. BLEDSOE, C. D. DI FONZO, J. B. EISLEY, AND C. R. EDWARDS. 2003. Does landscape diversity slow the spread of rotation-resistant western corn rootworm (Coleoptera: Chrysomelidae)? *Environmental Entomology* 32(5):992-1001.
- ORCUTT, I. H. 1889. The streaked cottonwood leaf-beetle. (*Plagioderia (Lina) scripta*, Fabr.). *Dakota Agricultural Experiment Station Bulletin* 13:14-15.
- ORCUTT, I. H. AND J. M. ALDRICH. 1891. The cottonwood leaf beetle. (*Lina scripta* Fab.). *South Dakota Agricultural Experiment Station Bulletin* 22:98-101.
- ORTENBURGER, A. I. AND M. H. HATCH. 1926. Notes on Coleoptera from southeastern Oklahoma with a few records from adjacent portions of Texas and Arkansas, including a new species. *Oklahoma Academy of Science* 6: 142-148.
- ORTON, W. A. AND F. H. CHITTENDEN. 1917. Control of diseases and insect enemies of the home vegetable garden. United States Department of Agriculture, Farmers' Bulletin 856:1-70.
- OSBORN, H. 1891. Notes on grass insects in Washington, D. C. *Insect Life* 4(5-6):197-198.
- OSBORN, H. AND D. J. KNULL. 1939. *Meadow and Pasture Insects*. The Educator's Press, Columbus, Ohio. 288 pp.
- OSBURN, W. 1875. The cottonwood leaf beetle. (*Plagioderia scripta* Fabr.). *Transactions of the Kansas Academy of Science* 4:24-25.
- OSMUN, J. V. 1958a. Summary of insect conditions – 1957, Indiana. Cooperative Economic Insect Report 8(18):351-354.
- OSMUN, J. V. 1958b. Southern corn rootworm (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 8(36):779.
- OTTO, C. AND J. B. WALLACE. 1989. Life cycle variation and habitat longevity in waterlily leaf beetles. *Holarctic Ecology* 12(2):144-151.
- QUELLET, J. 1919. Note on *Chalepus nervosa* Panz. and its probable food plant. *The Canadian Entomologist* 51:118-119.
- OUZTS, *. 1963. Southern corn rootworm (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 13(21):545.
- OVERMAN, J. L. AND L. E. MACCARTER. 1972. Evaluating seedlings of cantaloupe for varietal nonpreference-type resistance to *Diabrotica* spp. *Journal of Economic Entomology* 65(4):1140-1144.
- PACKARD, A. S. 1877. Report on the Rocky Mountain locust and other insects now injuring or likely to injure field and garden crops in the western states and territories. Pages 589-816 in F. V. Hayden. *Ninth Annual Report of the United States Geological and Geographical Survey of the Territories, Embracing Colorado and Parts of Adjacent Territories: Being a Report of Progress of the Exploration for the Year 1875*.
- PACKARD, A. S. 1887. Fourth report on insects injurious to forest and shade trees. United States Department of Agriculture, Division of Entomology, Bulletin 13:20-32.

Literature Cited

- PACKARD, A. S. 1888. Guide to the Study of Insects and a Treatise on those Injurious and Beneficial to Crops for the Use of Colleges, Farm-schools, and Agriculturists. Henry Holt and Company, New York. 715 pages.
- PACKARD, A. S. 1890. Fifth Report of the United States Entomology Commission, Being a Revised and Enlarged Edition of Bulletin No. 7, on Insects Injurious to Forest and Shade Trees. United States Department of Agriculture, Washington, D.C. 957 pages.
- PACKARD, C. M. 1952. Cereal and forage insects. United States Department of Agriculture, The Yearbook of Agriculture 1952:581-595.
- PAGE, M. AND R. L. LYON. 1976. Contact toxicity of insecticides applied to cottonwood leaf beetles. Journal of Economic Entomology 69(2):147-148.
- PAINE, T. D., R. A. REDAK, AND J. T. TRUMBLE. 1993. Impact of acidic deposition on *Encelia farinosa* Gray (Compositae: Asteraceae) and feeding preferences of *Trirhabda geminata* Horn (Coleoptera: Chrysomelidae). Journal of Chemical Ecology 19(1):97-105.
- PAINTER, R. H. 1955. Insects on corn and teosinte in Guatemala. Journal of Economic Entomology 48(1):36-42.
- PALANISWAMY, P. AND R. J. LAMB. 1992. Host preferences of the flea beetles *Phyllotreta cruciferae* and *P. striolata* (Coleoptera: Chrysomelidae) for crucifer seedlings. Journal of Economic Entomology 85(3):743-752.
- PALANISWAMY, P. AND R. J. LAMB. 1993. Wound-induced antixenotic resistance to flea beetles, *Phyllotreta cruciferae* (Goeze) (Coleoptera: Chrysomelidae), in crucifers. The Canadian Entomologist 125:903-912.
- PALANISWAMY, P. AND R. J. LAMB. 1998. Feeding preferences of a flea beetle, *Phyllotreta cruciferae* (Coleoptera: Chrysomelidae), among wild crucifers. The Canadian Entomologist 130:241-242.
- PALANISWAMY, P., R. J. LAMB, AND R. P. BODNARYK. 1997. Antibiosis of preferred and non-preferred host-plants for the flea beetle, *Phyllotreta cruciferae* (Goeze) (Coleoptera: Chrysomelidae). The Canadian Entomologist 129: 43-49.
- PALANISWAMY, P., R. J. LAMB, AND R. P. BODNARYK. 1998. Resistance to the flea beetle *Phyllotreta cruciferae* (Coleoptera: Chrysomelidae) in false flax, *Camelina sativa* (Brassicaceae). The Canadian Entomologist 130: 235-240.
- PALANISWAMY, P., R. J. LAMB, AND P. B. E. MCVETTY. 1992. Screening for antixenosis resistance to flea beetles, *Phyllotreta cruciferae* (Goeze) (Coleoptera: Chrysomelidae), in rapeseed and related crucifers. The Canadian Entomologist 124:895-906.
- PALANISWAMY, P., F. MATHESON, AND R. J. LAMB. 1998. Feeding preferences of *Phyllotreta cruciferae* (Coleoptera: Chrysomelidae) for wilted and nonwilted crucifer seedlings. The Canadian Entomologist 130:385-386.
- PALLISTER, J. C. 1953. The leaf beetles of north central Mexico collected on the David Rockefeller Mexican expedition (Coleoptera, Chrysomelidae). American Museum Novitates 1623:1-95.
- PALMER, J. O. 1982. Photoperiod effect of size-related metamorphosis in the milkweed leaf beetle, *Labidomera clivicollis*. Physiological Entomology 7:37-41.
- PALMER, J. O. 1984. Environmental determinants of seasonal body size variation in the milkweed leaf beetle, *Labidomera clivicollis* (Kirby) (Coleoptera: Chrysomelidae). Annals of the Entomological Society of America 77(2):188-192.
- PALMER, J. O. 1985a. Phenology and dormancy in the milkweed leaf beetle *Labidomera clivicollis* (Kirby). The American Midland Naturalist 114(1):13-18.
- PALMER, J. O. 1985b. Life-history consequences of body-size variation in the milkweed leaf beetle, *Labidomera clivicollis* (Coleoptera: Chrysomelidae). Annals of the Entomological Society of America 78(5):603-608.
- PALMER, W. A. 1986. The host range of *Trirhabda flavolimbata* (Mannerheim) (Coleoptera: Chrysomelidae) and its suitability as a biological control agent for *Baccharis* spp. (Asteraceae: Astereae). The Coleopterists Bulletin 40(2):149-153.
- PALMER, W. A. 1987. The phytophagous insect fauna associated with *Baccharis halimifolia* L. and *B. neglecta* Britton, in Texas, Louisiana, and northern Mexico. Proceedings of the Entomological Society of Washington 89(1): 185-199.
- PALMER, W. A. AND F. D. BENNETT. 1988. The phytophagous insect fauna associated with *Baccharis halimifolia* L. in the eastern United States. Proceedings of the Entomological Society of Washington 90(2):216-228.
- PALMER, W. A. AND R. D. GOEDEN. 1991. The host range of *Ophraella communa* LeSage (Coleoptera: Chrysomelidae). The Coleopterists Bulletin 45(2):115-120.
- PALMER, W. A. AND W. H. HASELER. 1992. The host specificity and biology of *Trirhabda bacharidis* (Weber) (Coleoptera: Chrysomelidae), a species introduced into Australia for the biological control of *Baccharis halimifolia* L. The Coleopterists Bulletin 46(1):61-66.
- PALMER, W. A. AND K. R. PULLEN. 1994. Phytophagous insects associated with *Baccharis conferta* Kunth and *B. dioica* Vahl (Asteraceae: Astereae) in Mexico. Proceedings of the Entomological Society of Washington 96(4):757-763.
- PANELLA, J. S., J. A. WEBSTER, AND M. J. ZABIK. 1974. Cereal leaf beetle host selection and plant resistance: olfactometer and feeding attractant tests (Coleoptera: Chrysomelidae). Journal of the Kansas Entomological Society 47(3):348-357.
- PANTYUKHOV, G. A. 1992. Conditions of hibernation and survival of adult ragweed striped leaf-beetle, *Zygogramma suturalis* F. (Coleoptera, Chrysomelidae), in Stavropol' Territory. Entomological Review 71(5):25-31.

- PAPP, C. S. 1959. Discussion of synonymy and first illustrations of larva and pupa of *Coreopsomela elagans* (Olivier 1807) from California (Notes on North American Coleoptera, No. 6). *Journal of the Kansas Entomological Society* 32(3):137-141.
- PAPP, C. 1984. *Introduction to North American Beetles*. Entomography Publications, Sacramento, California. 335 pages.
- PAPPERS, S. M., H. VAN DOMMELEN, G. VAN DER VELDE, AND N. J. OUBORG. 2001. Differences in morphology and reproductive traits of *Galerucella nymphaeae* from four host plant species. *Entomologia Experimentalis et Applicata* 99(2):183-191.
- PARADIS, R. O. 1959. Note on *Rhabdopterus praetextus* (Say) (Coleoptera: Chrysomelidae) as an apple pest in Quebec. *The Canadian Entomologist* 91:40-41.
- PARKER, R. L. 1946. Additional host and distribution records of the sweetpotato leaf beetle, *Typophorus viridicyaneus* (Crotch), (Coleoptera, Chrysomelidae). *Journal of the Kansas Entomological Society* 19(1):11-12.
- PARKER, W. B. 1910. The life history and control of the hop flea-beetle (*Psylliodes punctulata* Melsh.). United States Department of Agriculture, Bureau of Entomology, Bulletin 82(5):33-58.
- PARKS, T. H. 1936. Insects on elms. The Ohio State University, Agricultural Experiment Station, Bulletin 172:1-32.
- PARRY, R. H. 1974. Revision of the genus *Dibolia* Latreille in America north of Mexico (Coleoptera: Chrysomelidae). *Canadian Journal of Zoology* 52(11):1317-1354.
- PARRY, R. H. 1986. The systematics and biology of the flea beetle genus *Crepidodera* Chevrolat (Coleoptera: Chrysomelidae) in America north of Mexico. *Insecta Mundi* 1(3):156-196.
- PARSHALL, A. E. 1968. Colorado potato beetle (*Leptinotarsa decemlineata*). Cooperative Economic Insect Report 18(28):640.
- PARSHALL, A. E. 1969. Western corn rootworm (*Diabrotica virgifera*). Cooperative Economic Insect Report 19(30):570.
- PARSHALL, A. E. 1970. Flea beetles. Cooperative Economic Insect Report 20(27):445.
- PASSOA, S. 1983. Lista de los insectos asociados con los granos básicos y otros cultivos selectos en Honduras. *Ceiba* 25(1):1-97.
- PASSON, *. 1967. Western spotted cucumber beetle (*Diabrotica undecimpunctata undecimpunctata*). Cooperative Economic Insect Report 17(28):625.
- PASTEELS, J. M., J. BRAEKMAN, AND D. DALOZE. 1988. Chemical defense in the Chrysomelidae. Pages 233-252 in P. Jolivet, E. Petitpierre, and T. H. Hsiao (eds.). *Biology of Chrysomelidae*. Kluwer Academic Publishers, The Netherlands.
- PASTEELS, J. M., D. DALOZE, AND M. ROWELL-RAHIER. 1986. Chemical defence in chrysomelid eggs and neonate larvae. *Physiological Entomology* 11:29-37.
- PATCH, E. M. 1913. List of insects recorded on potato. Maine Agricultural Experiment Station Bulletin 211:51-56.
- PATERSON, N. F. 1931. Studies on the Chrysomelidae – part II. The bionomics and comparative morphology of the early stages of certain Chrysomelidae (Coleoptera, Phytophaga). *Proceedings of the Zoological Society of London* 1931:879-949.
- PEAIRS, L. M. AND R. H. DAVIDSON. 1939. *Insect Pests of Farm, Garden, and Orchard*, Fifth Edition. Chapman & Hall, New York. 661 pages.
- PECK, S. B. AND M. C. THOMAS. 1998. A distributional checklist of the beetles (Coleoptera) of Florida. *Arthropods of Florida and Neighboring Land Areas* 16:1-180.
- PEDIGO, L. P. 1996. *Entomology and Pest Management*, Second Edition. Prentice Hall, Upper Saddle River, New Jersey. 679 pages.
- PELLETIER, Y. 1990. The effect of water stress and leaflet size on the density of trichomes and the resistance to Colorado potato beetle larvae (*Leptinotarsa decemlineata* [Say]) in *Solanum berthaultii* Hawkes. *The Canadian Entomologist* 122:1141-1147.
- PELLETIER, Y., G. GRONDIN, AND P. MALTAIS. 1999. Mechanism of resistance to the Colorado potato beetle in wild *Solanum* species. *Journal of Economic Entomology* 92(3):708-713.
- PELLETIER, Y. AND Z. SMILOWITZ. 1991a. Feeding behavior of the adult Colorado potato beetle, *Leptinotarsa decemlineata* (Say), on *Solanum berthaultii* Hawkes. *The Canadian Entomologist* 123:219-230.
- PELLETIER, Y. AND Z. SMILOWITZ. 1991b. Biological and genetic study on the utilization of *Solanum berthaultii* Hawkes by the Colorado potato beetle *Leptinotarsa decemlineata* (Say). *Canadian Journal of Zoology* 69:1280-1288.
- PEMBERTON, R. W. AND E. M. HOOVER. 1980. Insects associated with wild plants in Europe and the Middle East. Biological control of weeds surveys. United States Department of Agriculture, Miscellaneous Publication 1382:1-33.
- PEMBERTON, R. W. AND N. E. REES. 1990. Host specificity and establishment of *Aphthona flava* Guill. (Chrysomelidae), a biological control agent for leafy spurge (*Euphorbia esula* L.) in the United States. *Proceeding of the Entomological Society of Washington* 92(2):351-357.
- PEMBERTON, R. W. AND C. E. TURNER. 1990. Biological control of *Senecio jacobaea* in northern California, an enduring success. *Entomophaga* 35(1):71-77.
- PENNAK, R. W. 1947. *Keys to the aquatic insects of Colorado*. University of Colorado Studies, Series D (Physical and Biological Sciences) 2(3):353-383.

Literature Cited

- PENNAK, R. W. 1953. Fresh-water Invertebrates of the United States. The Ronald Press Company, New York. 769 pages.
- PENROSE, R. L. AND * HUMPHREY. 1971. Elm leaf beetle (*Pyrrhalta luteola*). Cooperative Economic Insect Report 21(33):590.
- PEPPER, J. O. 1955. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 5(23):518.
- PEPPER, J. O. 1957. Flea beetles. Cooperative Economic Insect Report 7(27):533.
- PEPPER, J. O. 1962. Leaf beetles. Cooperative Economic Insect Report 12(20):495.
- PERKINS, G. H. 1890. Methods of preventing or checking the attacks of injurious insects. Vermont Agricultural Report by the State Board of Agriculture 11:189-382.
- PERRON, J. P. 1964. Flea beetles (*Systena frontalis* (F.)). The Canadian Insect Pest Review 42(4):67.
- PERROUD, B. AND X. MONTROUSIER. 1864. Essai sur la fauna entomologique de Kanala (Nouvelle-Calédonie) et description quelques espèces nouvelles ou peu connues. Annales de la Société Linnéenne de Lyon (Nouvelle Série) 11:46-253.
- PESCHKEN, D. P. 1972. *Chrysolina quadrigemina* (Coleoptera: Chrysomelidae) introduced from California to British Columbia against the weed *Hypericum perforatum*: comparison of behaviour, physiology, and colour in association with post-colonization adaptation. The Canadian Entomologist 104:1689-1698.
- PESCHKEN, D. P. 1977. Biological control of creeping thistle (*Cirsium arvense*): analysis of the releases of *Altica carduorum* (Col.: Chrysomelidae) in Canada. Entomophaga 22(4):425-428.
- PESCHKEN, D. P. 1984. Host range of *Lema cyanella* (Coleoptera: Chrysomelidae), a candidate for biocontrol of Canada thistle, and of four stenophagous, foreign thistle insects in North America. The Canadian Entomologist 116:1377-1384.
- PESCHKEN, D. P., R. DECLERCK-FLOAT, AND A. S. MCCLAY. 1997. *Cassida azurea* Fab. (Coleoptera: Chrysomelidae): host specificity and establishment in Canada as a biological control agent against the weed *Silene vulgaris* (Moench) Garcke. The Canadian Entomologist 129:949-958.
- PESCHKEN, D. P., H. A. FRIESEN, N. V. TONKS, AND F. L. BANHAM. 1970. Releases of *Altica carduorum* (Chrysomelidae: Coleoptera) against the weed Canada thistle (*Cirsium arvense*) in Canada. The Canadian Entomologist 102(3):264-271.
- PESCHKEN, D. P. AND G. R. JOHNSON. 1979. Host specificity and suitability of *Lema cyanella* (Coleoptera: Chrysomelidae), a candidate for the biological control of Canada thistle (*Cirsium arvense*). The Canadian Entomologist 111:1059-1068.
- PETERS, D. C. AND H. E. BARTON. 1969. *Systena frontalis* larvae in corn roots. Journal of Economic Entomology 62(5):1232-1233.
- PETERS, G. L. 1991. *Timarcha cerdo* lives! Bulletin of the Oregon Entomological Society 115:794-795.
- PETERSON, *. 1962. Striped flea beetle (*Phyllotreta striolata*). Cooperative Economic Insect Report 12(33):926.
- PETERSON, A. 1921. The strawberry root-worm, a serious pest on roses in the greenhouse. New Jersey Agricultural Experiment Station, Annual Report 33:468-493.
- PETERSON, A. 1945. Some insect infants. The Scientific Monthly 60:426-442.
- PETERSON, A. 1960. Larvae of Insects, an Introduction to Nearctic Species. Part II. Coleoptera, Diptera, Neuroptera, Siphonaptera, Mecoptera, Trichoptera. Fourth Edition. A. Peterson, Columbus, Ohio. 416 pages.
- PETERSON, B. 1977. Pollination of *Thlaspi alpestre* by selfing and by insects in the alpine zone of Colorado. Arctic and Alpine Research 9(2):211-215.
- PETERSON, B. L. AND G. P. DIVELEY. 1981. Effect of feeding by *Lema trivittata* (Coleoptera: Chrysomelidae) on the growth, reproduction and competitive ability of jimsonweed in soybeans. Proceedings of the Annual Meeting of the Northeastern Weed Science Society 35:78.
- PETERSON, J. K. AND J. M. SCHALK. 1994. Internal bacteria in the Chrysomelidae. Pages 393-405 in P. H. Jolivet, M. L. Cox, and E. Petitpierre (eds.). Novel Aspects of the Biology of Chrysomelidae. Kluwer Academic Publishers, The Netherlands.
- PETERSON, M. A. S. DOBLER, J. HOLLAND, L. TANTALO, AND S. LOCKE. 2001. Behavioral, molecular, and morphological evidence for a hybrid zone between *Chrysochus auratus* and *C. cobaltinus* (Coleoptera: Chrysomelidae). Annals of the Entomological Society of America 94(1):1-9.
- PETITPIERRE, E. 1999. Catàleg dels coleòpters crisomèlids de Catalunya IV. Alticinae. Butlletí de la Institució Catalana d'Història Natural 67:91-129.
- PETITPIERRE, E., G. BASTAZO, AND J. BLASCO-ZUMETA. 2000. Crisomélidos (Coleoptera: Chrysomelidae) de un sabinar de *Juniperus thurifera* L. en Los Monegros (Zaragoza, NE España). Boletín de la Sociedad Entomológica Aragonesa 27:53-61.
- PETITPIERRE, E., C. JUAN, AND D. J. FUTUYMA. 1990. Cytogenetic and evolutionary relationships in the Nearctic genus *Ophraella* and related genera (Coleoptera: Chrysomelidae). Annals of the Entomological Society of America 83(4):689-693.
- PETTIT, R. H. 1929. Grape root-worm (*Fidia viticida*). Michigan State College of Agriculture and Applied Science, Extension Division, Extension Bulletin 80:1-3.
- PETTY, H. B. 1955a. Corn flea beetle (*Chaetocnema pulicaria*). Cooperative Economic Insect Report 5(18):379.

- PETTY, H. B. 1955b. Bean leaf beetle (*Cerotoma trifurcata*). Cooperative Economic Insect Report 5(19):404.
- PHIPPS, C. R. 1926. *Xanthonia decem-notata* Say, an apple pest in Maine (Coleoptera, Chrysomelidae). Journal of Economic Entomology 19:466-469.
- PHIPPS, C. R. 1930. Blueberry and huckleberry insects. Maine Agricultural Experiment Station Bulletin 356:107-232.
- PIERCE, W. D. 1940. The fauna and flora of the El Segundo Sand Dunes. 11. The dune case-bearing beetles of the genus *Exema* with review of the genus. Southern California Academy of Sciences, Bulletin 39:6-27.
- PIERCE, W. D. AND A. W. MORRILL. 1914. Notes on the entomology of the Arizona wild cotton. Proceedings of the Entomological Society of Washington 16:14-23.
- PIMENTEL, D. 1961. Competition and species-per-genus structure of communities. Annals of the Entomological Society of America 54:323-333.
- PIPER, C. V. 1895. Insect pests of the garden, farm and orchard. Washington State Agricultural College and School of Science, Experiment Station Bulletin 17:1-66.
- PIPER, G. L. 1975. The biology and immature stages of *Zygogramma suturalis* (Fabricius) (Coleoptera: Chrysomelidae). The Ohio Journal of Science 75(1):19-24.
- PIPER, G. L. 1978. Life history of *Zygogramma disrupta* in southeast Texas (Coleoptera: Chrysomelidae). The Pan-Pacific Entomologist 54(3):226-230.
- PIRONE, P. P. 1970. Diseases and Pests of Ornamental Plants. Fourth Edition. The Ronald Press Company, New York. 546 pages.
- PITRE, H. N. AND E. J. KANTACK. 1962. Biology of the banded cucumber beetle, *Diabrotica balteata*, in Louisiana. Journal of Economic Entomology 55(6):904-906.
- PITTS, *. 1965a. Colorado potato beetle (*Leptinotarsa decemlineata*). Cooperative Economic Insect Report 15(23):573.
- PITTS, *. 1965b. Bean leaf beetle (*Cerotoma trifurcata*). Cooperative Economic Insect Report 15(23):574.
- POINAR, G. 2001. Host plants for Oregon coastal species of *Timarcha* Hald. Chrysomela Newsletter 40/41:6.
- POINAR, G., P. JOLIVET, AND A. GRAFTEAUX. 2002. New food-plants provide clues for the origin and distribution of *Timarcha* (Col. Chrysomelidae Chrysomelinae). Lambillionea 102(1):103-109.
- POND, D. D. 1956. Annotated list of insects found in or near roots of cultivated crucifers in New Brunswick. Journal of Economic Entomology 49(3):336-338.
- POOS, F. W. 1939. Host plants harboring *Aplanobacter stewarti* without showing external symptoms after inoculation by *Chaetocnema pulicaria*. Journal of Economic Entomology 32(6):881-882.
- POOS, F. W. 1940. The locust leaf miner as a pest of soybean. Journal of Economic Entomology 33(5):742-745.
- POOS, F. W. 1955. Studies of certain species of *Chaetocnema*. Journal of Economic Entomology 48(5):555-563.
- POOS, F. W. AND C. ELLIOTT. 1936. Certain insect vectors of *Aplanobacter stewarti*. Journal of Agricultural Research 52(8):585-608.
- POPENOE, C. H. 1909. The Colorado potato beetle in Virginia in 1908. United States Department of Agriculture, Bureau of Entomology, Bulletin 82(1):1-8.
- POPENOE, E. A. 1877. A list of Kansas Coleoptera. Transactions of the Kansas Academy of Sciences 5:21-40.
- POPENOE, E. A. 1878. Additions to the catalogue of Kansas Coleoptera. Transactions of the Kansas Academy of Sciences 6:77-86.
- POPENOE, E. A. 1888. Observations on two insect pests. Kansas Agricultural Experiment Station Bulletin 3:25-39.
- POPENOE, E. A. AND C. L. MARLATT. 1889 (1888). Observations upon injurious insects. Annual Report of the Kansas Experiment Station 1:30-61.
- PORTER, H. L. 1955. The Control of Insects and Plant Diseases in the Nursery. Fifth Edition. Ohio Department of Agriculture, Columbus, Ohio. 115 pages.
- PORTMAN, R. W. AND H. C. MANIS. 1954. Idaho recommendations for insect control. Idaho Agricultural Extension Service Bulletin 216:1-74.
- POTTER, D. A. 1998. Destructive Turfgrass Insects, Biology, Diagnosis, and Control. Ann Arbor Press, Chelsea, Michigan. 344 pages.
- POWELL, E. F. 1932. The Chrysomelinae of Nebraska (Coleop.: Chrysomelidae.). Entomological News 43(4):92-97.
- PRICE, P. W. AND M. F. WILLSON. 1979. Abundance of herbivores on six milkweed species in Illinois. The American Midland Naturalist 101(1):76-86.
- PRINGLE, W. L. 1960. The effect of a leaf feeding beetle on big sagebrush in British Columbia. Journal of Range Management 13(3):139-142.
- PROCTOR, W. 1938. Biological Survey of the Mount Desert Region, Part VI, the Insect Fauna with References to Methods of Capture, Food Plants, the Flora and other Biological Features. The Wistar Institute of Anatomy and Biology, Philadelphia. 498 pages.
- PROCTOR, W. 1946. Biological Survey of the Mount Desert Region, Part VII, the Insect Fauna with References to Methods of Capture, Food Plants, the Flora and other Biological Features. The Wistar Institute of Anatomy and Biology, Philadelphia. 566 pages.
- PUTNAM, J. D. 1876. Report on the insects collected in the vicinity of Spring Lake Villa, Utah Co., Utah, during the summer of 1875. Proceedings of the Davenport Academy of Natural Sciences 1:193-205.
- PUTNAM, L. G. 1977. Response of four *Brassica* seed crop species to attack by the crucifer flea beetle, *Phyllotreta cruciferae*. Canadian Journal of Plant Science 57:987-989.

Literature Cited

- PUTTLER, B. 1966. Notes on two parasites attacking a *Lema* sp. (Coleoptera: Chrysomelidae). *Journal of Economic Entomology* 59(2):475-476.
- PUTTLER, B. AND S. H. LONG. 1983. Host specificity tests of an egg parasite, *Edovum puttleri* (Hymenoptera: Eulophidae), of the Colorado potato beetle, *Leptinotarsa decemlineata* (Coleoptera: Chrysomelidae). *Proceedings of the Entomological Society of Washington* 85(2):384-387.
- QUAINTANCE, A. L. 1900. Observations on *Diabrotica 12-punctata* Oliv. United States Department of Agriculture, Division of Entomology, Bulletin (New Series) 26:35-41.
- QUAINTANCE, A. L. 1912. [Untitled]. *Proceedings of the Entomological Society of Washington* 14:212.
- QUAINTANCE, A. L. AND C. L. SHEAR. 1907. Insect and fungous enemies of the grape east of the Rocky Mountains. United States Department of Agriculture, Farmers' Bulletin 284:1-48.
- QUAINTANCE, A. L. AND E. H. SIEGLER. 1922. The more important apple insects. United States Department of Agriculture, Farmers' Bulletin 1270:1-95.
- QUAYLE, H. J. 1908a. A new root pest of the vine in California. *Journal of Economic Entomology* 1:175-176.
- QUAYLE, H. J. 1908b. The California grape root-worm. *California Agricultural Experiment Station Bulletin* 195:1-26.
- QUAYLE, H. J. 1908c. A flea-beetle attacking hops in British Columbia. *Journal of Economic Entomology* 1:325.
- QUAYLE, H. J. 1938. *Insects of Citrus and other Subtropical Fruits*. Comstock Publishing Company, Ithaca, New York. 583 pages.
- QUESADA, M., K. BOLLMAN, AND A. G. STEPHENSON. 1995. Leaf damage decreases pollen production and hinders pollen performance in *Cucurbita texana*. *Ecology* 76(2):437-443.
- QUILTER, H. E. 1887. The metamorphoses of *Galeruca nymphaea* [sic], Linn. *The Entomologist* 20:178-181.
- RABB, R. L., H. E. SCOTT, F. E. GUTHRIE, AND C. F. SMITH. 1955. Tobacco insects of North Carolina and their natural enemies. *North Carolina Agricultural Experiment Station Bulletin* 394:1-31.
- RACE, S. R. 1968. Northern corn rootworm (*Diabrotica longicornis*). *Cooperative Economic Insect Report* 18(44):1032.
- RADCLIFFE, E. B. 1982. Insect pests of potato. *Annual Review of Entomology* 27:173-204.
- RADCLIFFE, E. B., K. L. FLANDERS, D. W. RAGSDALE, AND D. M. NOETZEL. 1990. Pest management systems for potato insects. Pages 587-621 in D. Pimentel (ed.). *CRC Handbook of Pest Management in Agriculture*, Volume III, 2nd Edition. CRC Press, Inc., Boca Raton, Florida.
- RADIN, A. M. AND F. A. DRUMMOND. 1994. Patterns of initial colonization of cucurbits, reproductive activity, and dispersion of striped cucumber beetle, *Acalymma vittata* (F.) (Coleoptera: Chrysomelidae). *Journal of Agricultural Entomology* 11:115-123.
- RAIZENNE, H. 1975. *Chrysomelid Species Found on Trees and Shrubs in Canada*. Privately printed. Ottawa. 68 pages, 49 figures.
- RANDALL, J. W. 1838a. Description of new species of coleopterous insects inhabiting the state of Maine. *Boston Journal of Natural History* 2:1-33.
- RANDALL, J. W. 1838b. Description of new species of coleopterous insects inhabiting the state of Massachusetts. *Boston Journal of Natural History* 2:34-52.
- RANDOLPH, *. 1962. Striped cucumber beetle (*Diabrotica undecimpunctata howardi*). *Cooperative Economic Insect Report* 12(6):69.
- RANDOLPH, * AND J. M. KING. 1954. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). *Cooperative Economic Insect Report* 4(10):198.
- RANDOLPH, * AND * MASSEY. 1964. Colorado potato beetle (*Leptinotarsa decemlineata*). *Cooperative Economic Insect Report* 14(19):438.
- RANK, N. E. 1991. Effects of plant chemical variation on a specialist herbivore: willow leaf beetles in the eastern Sierra Nevada. Pages 161-181 in C. A. Hall, V. Doyle-Jones, and B. Widawski (eds.). *Natural History of Eastern California and High-altitude Research*. White Mountain Research Station Symposium, Volume 3. The University of California, Los Angeles, California.
- RANK, N. E. 1992a. A hierarchical analysis of genetic differentiation in a montane leaf beetle *Chrysomela aeneicollis* (Coleoptera: Chrysomelidae). *Evolution* 46(4):1097-1111.
- RANK, N. E. 1992b. Host plant preference based on salicylate chemistry in a willow leaf beetle (*Chrysomela aeneicollis*). *Oecologia* 90:95-101.
- RANK, N. E. 1994. Host-plant effects on larval survival of a salicin-using leaf beetle *Chrysomela aeneicollis* Schaeffer (Coleoptera: Chrysomelidae). *Oecologia* 97:342-353.
- RANK, N. E. AND J. T. SMILEY. 1994. Host-plant effects on *Parasyrphus melanderi* (Diptera: Syrphidae) feeding on a willow leaf beetle *Chrysomela aeneicollis* (Coleoptera: Chrysomelidae). *Ecological Entomology* 19:31-38.
- RANK, N. E., J. SMILEY, AND A. KÖPF. 1996. Natural enemies and host plant relationships for chrysomeline leaf beetles feeding on Salicaceae. Pages 147-171 in P. H. A. Jolivet and M. L. Cox (eds.). *Chrysomelidae Biology*, Volume 2: Ecological Studies. SPB Academic Publishing, Amsterdam, The Netherlands.
- RAU, P. AND N. RAU. 1916. The sleep of insects; an ecological study. *Annals of the Entomological Society of America* 9(3):227-274.
- RAUPP, M. J. 1985. Effects of leaf toughness on mandibular wear of the leaf beetle, *Plagioderma versicolora*. *Ecological Entomology* 10:73-79.

- RAUPP, M. J. AND R. F. DENNO. 1984. The suitability of damaged willow leaves as food for the leaf beetle, *Plagioder a versicolora*. Ecological Entomology 9:443-448.
- RAUPP, M. J., F. RIVERA MILAN, P. BARBOSA, AND B. A. LEONHARDT. 1986. Methylcyclopentanoid monoterpenes mediate interactions among insect herbivores. Science 234:1408-1410.
- RAUPP, M. J. AND C. S. SADOFF. 1989. Behavioral responses of a leaf beetle to injury-related changes in its salicaceous host. Oecologia 80:154-157.
- RAUSHER, M. D. 1983. Conditioning and genetic variation as causes of individual variation in oviposition behaviour of the tortoise beetle, *Deloyala guttata*. Animal Behaviour 31(3):743-747.
- RAUSHER, M. D. 1984. Tradeoffs in performance on different hosts: evidence from within- and between-site variation in the beetle *Deloyala guttata*. Evolution 38(3):582-595.
- RAWSON, *. 1959. Flea beetles. Cooperative Economic Insect Report 9(22):462.
- READ, R. W. J. 1984. On the foodplants of *Chrysolina staphylea* L. (Col.: Chrysomelidae). Entomological Record 96: 185.
- READIO, P. A. 1936. The elm leaf beetle, *Galerucella xanthomelaena* (Schrank). Massachusetts Forest and Park Association, Tree Pest Leaflets 9:1-4.
- READIO, P. A. 1939. The strawberry rootworm as a nut pest. Northern Nut Growers Association, Report of the Proceedings of the Thirtieth Annual Meeting. Pages 78-79.
- READIO, P. A. 1940. Elm leaf beetle *Galerucella xanthomelaena* (Schrank). Pages 35-37 in H. I. Baldwin. Important Tree Pests of the Northeast. Massachusetts Forest and Park Association, Boston, Massachusetts.
- REDAK, R. A., J. A. BETHKE, T. D. PAINE, AND J. T. TRUMBLE. 1995. Biology and laboratory development of *Trirhabda geminata* (Coleoptera: Chrysomelidae) on the composite, *Encelia farinosa*. Annals of the Entomological Society of America 88(2):196-200.
- REED, G. L., H. S. MYERS, AND J. D. POWELL. 1984. Comparison of cucurbit cultivars as hosts and description of a technique for rearing the striped cucumber beetle (Coleoptera: Chrysomelidae). Journal of Economic Entomology 77(2):337-338.
- REED, H. 1927. Some observations on the leaf-mining flea-beetle *Dibolia borealis* Chevrolat. Annals of the Entomological Society of America 20:540-548.
- REID, C. A. M. 1988. *Diachus auratus* (F.) (Coleoptera: Chrysomelidae), a recent immigrant to the south-west Pacific region, on legumes. General and Applied Entomology 20:5-8.
- REID, D. G. AND R. HARMSSEN. 1975. *Trirhabda borealis* Blake (Coleoptera: Chrysomelidae): a major phytophagous species on *Solidago canadensis* L. (Asteracea [sic]) in south-eastern Ontario. Proceedings of the Entomological Society of Ontario 105:44-47.
- REID, W. J. 1952. Banded cucumber beetle (*Diabrotica balteata*). Cooperative Economic Insect Report 2(20):287.
- REID, W. J. AND F. P. CUTHBERT. 1951. Cucumber beetles. Cooperative Economic Insect Report 1(7):127.
- REZNIK, S. Y. 1991. The effects of feeding damage in ragweed *Ambrosia artemisiifolia* (Asteraceae) on populations of *Zygogramma suturalis* (Coleoptera, Chrysomelidae). Oecologia 88:204-210.
- REZNIK, S. Y. 1993. Seasonal changes in ovipositional selectivity in the monophagous leaf beetle *Zygogramma suturalis* (Coleoptera: Chrysomelidae). European Journal of Entomology 90:295-301.
- REZNIK, S. Y. 2000. What we learned from the failure of the ragweed leaf beetle in Russia. Pages 195-196 in N. R. Spencer (ed.). Proceedings of the X International Symposium on Biological Control of Weeds, 4-14 July 1999, Montana State University, Bozeman, Montana, USA.
- REZNIK, S. Y., S. A. BELOKOBYL'SKIY, AND A. L. LOBANOV. 1990. Effect of agroecosystem stability on ambrosia leaf beetle *Zygogramma suturalis* (Coleoptera, Chrysomelidae) population density. Entomological Review 69(7): 109-114.
- REZNIK, S. Y., S. A. BELOKOBYL'SKIY, AND A. L. LOBANOV. 1994. Weed and herbivorous insect population densities at the broad spatial scale: *Ambrosia artemisiifolia* L. and *Zygogramma suturalis* F. (Col., Chrysomelidae). Journal of Applied Entomology 118(1):1-9.
- RHODES, A. M., R. L. METCALF, AND E. R. METCALF. 1980. Diabrotic beetle responses to cucurbitacin kairomones in *Cucurbita* hybrids. Journal of the American Society of Horticultural Science 105(6):838-846.
- RICHARDSON, B. H. 1955. An eggplant tortoise beetle (*Gratiana pallidula*). Cooperative Economic Insect Report 5(19): 412.
- RICHARDSON, W. D. 1892 (1891). Notes on *Lema sayi*. Proceedings of the Entomological Society of Washington 2(2): 240.
- RICHERSON, J. V. AND P. E. BOLDT. 1995. Phytophagous insect fauna of *Flourensia cernua* (Asteraceae: Heliantheae) in Trans-Pecos Texas and Arizona. Environmental Entomology 24(3):588-594.
- RICHMAN, E. S. 1892. Horticulture and entomology. Utah Agricultural Experiment Station Bulletin 14:1-11.
- RICKELMANN, K. M. AND C. E. BACH. 1991. Effects of soil moisture on the population behavior of *Altica subplicata* (Coleoptera: Chrysomelidae). The Great Lakes Entomologist 24(4):231-237.
- RILEY, C. V. 1869a. Insects infesting the potato. Annual Report on the Noxious, Beneficial and other Insects of the State of Missouri 1:91-117.
- RILEY, C. V. 1869b. The grape-vine fidia – *Fidia viticida*, Walsh. (Coleoptera, Chrysomelidae.). Annual Report on the Noxious, Beneficial and other Insects of the State of Missouri 1:132-133.

Literature Cited

- RILEY, C. V. 1870a. The striped cucumber beetle in a new role. *The American Entomologist and Botanist* 2:239.
- RILEY, C. V. 1870b. Insects injurious to the grape vine. No. 12. The grape-vine flea-beetle. (*Haltica chalybea*, Illiger.). *The American Entomologist and Botanist* 2(11):327-328.
- RILEY, C. V. 1870c. Insects infesting the sweet-potato. *Annual Report on the Noxious, Beneficial and other Insects, of the State of Missouri* 2:56-64.
- RILEY, C. V. 1870d. The pickle worm – *Phacellura nitidalis*, Cramer (Lepidoptera: Margarodidae). *Annual Report on the Noxious, Beneficial and other Insects, of the State of Missouri* 2:64-70.
- RILEY, C. V. 1871a. The grape vine flea-beetle – *Haltica chalybea*, Illiger [sic] (Coleoptera, Chrysomelidae). *Annual Report on the Noxious, Beneficial and other Insects, of the State of Missouri* 3:79-81.
- RILEY, C. V. 1871b. The grape-vine colaspis – *Colaspis flavida*, Say (Coleoptera, Chrysomelidae). *Annual Report on the Noxious, Beneficial and other Insects, of the State of Missouri* 3:81-84.
- RILEY, C. V. 1871c. The Colorado potato beetle again. *Annual Report on the Noxious, Beneficial and other Insects, of the State of Missouri* 3:97-101.
- RILEY, C. V. 1874a. The Colorado potato beetle. *Annual Report on the Noxious, Beneficial, and other Insects, of the State of Missouri* 6:11-16.
- RILEY, C. V. 1874b. The jumping sumach beetle – *Blepharida rhois* (Forst.) (Ord. Coleoptera; Fam. Chrysomelidae). *Annual Report on the Noxious, Beneficial, and other Insects, of the State of Missouri* 6:118-122.
- RILEY, C. V. 1874c. The Dominican case-bearer – *Coscinoptera dominicana* (Fabr.) (Ord. Coleoptera; Fam. Chrysomelidae). *Annual Report on the Noxious, Beneficial, and other Insects, of the State of Missouri* 6:127-131.
- RILEY, C. V. 1879. Report of the entomologist. Pages 207-257 in *United States Department of Agriculture, Report of the Commissioner of Agriculture for the Year 1878*.
- RILEY, C. V. 1880. A new enemy to corn the long-horned *Diabrotica*. *The American Entomologist* 3(10):247.
- RILEY, C. V. 1882. Change of habit; two new enemies of the egg-plant. *American Naturalist* 16:678-679.
- RILEY, C. V. 1883. Enemies of the egg-plant. *American Naturalist* 17:1070.
- RILEY, C. V. 1884. Report of the entomologist. Pages 284-418 in *United States Department of Agriculture, Report of the Commissioner of Agriculture for the Year 1884*.
- RILEY, C. V. 1887. A new apple pest. The apple leaf flea beetle (*Haltica punctipennis*, LeConte). *Scientific American* (New Series) 65(25):384.
- RILEY, C. V. 1891. On the habits and life history of *Diabrotica 12-punctata* Oliv. *Insect Life* 4:104-108.
- RILEY, C. V. 1892. *Galeruca xanthomelaena* polygoneutic at Washington. *The Canadian Entomologist* 24:282-286.
- RILEY, C. V. AND A. S. FULLER. 1880a. *Odontota scutellaris*, Oliv., bad on a variety of trees. *The American Entomologist* 3(6):151.
- RILEY, C. V. AND A. S. FULLER. 1880b. A foe to cottonwood. The streaked cottonwood beetle. *The American Entomologist* 3(7):159-161.
- RILEY, C. V. AND A. S. FULLER. 1880c. Linden and ash destroyers. *The American Entomologist* 3(7):181.
- RILEY, C. V. AND A. S. FULLER. 1880d. The grapevine flea-beetle (*Graptodera chalybea* Illig.). *The American Entomologist* 3(8):183-184.
- RILEY, C. V. AND L. O. HOWARD. 1888a. Increase and divergent habits of *Cryptocephalus venustus*. *Insect Life* 1(1):32.
- RILEY, C. V. AND L. O. HOWARD. 1888b. The twelve-spotted *Diabrotica* injuring fruit trees. *Insect Life* 1:58-59.
- RILEY, C. V. AND L. O. HOWARD. 1888c. *Graptodera punctipennis* injuring nursery stock. *Insect Life* 1(3):85.
- RILEY, C. V. AND L. O. HOWARD. 1889a. A grape-vine flea-beetle in the Southwest. *Insect Life* 1(7):220-221.
- RILEY, C. V. AND L. O. HOWARD. 1889b. The red-legged flea-beetle injuring peach orchards. *Insect Life* 1(9):280.
- RILEY, C. V. AND L. O. HOWARD. 1889c. A new grape pest in the Southwest. *Insect Life* 1(12):385-386.
- RILEY, C. V. AND L. O. HOWARD. 1889d. Supposed injury to grass from *Gastrophysa polygoni*. *Insect Life* 2(6):190.
- RILEY, C. V. AND L. O. HOWARD. 1890a. Flea beetle injury to strawberries. *Insect Life* 2(11-12):369-370.
- RILEY, C. V. AND L. O. HOWARD. 1890b. The fuchsia beetle. *Insect Life* 3(1):25-26.
- RILEY, C. V. AND L. O. HOWARD. 1890c. A peach-tree leaf-beetle. *Insect Life* 3(4):162.
- RILEY, C. V. AND L. O. HOWARD. 1890d. The black-locust hispa. *Insect Life* 3(4):164.
- RILEY, C. V. AND L. O. HOWARD. 1891a. A grape vine pest. *Insect Life* 3(6):298.
- RILEY, C. V. AND L. O. HOWARD. 1891b. The brassy flea beetle injuring corn. *Insect Life* 3(7-8):336.
- RILEY, C. V. AND L. O. HOWARD. 1891c. An injurious flea-beetle in Utah. *Insect Life* 4(3-4):135.
- RILEY, C. V. AND L. O. HOWARD. 1891d. A new enemy to pear leaves. *Insect Life* 4(3-4):135.
- RILEY, C. V. AND L. O. HOWARD. 1891e. A grapevine flea-beetle of New Mexico. *Insect Life* 4(3-4):135-136.
- RILEY, C. V. AND L. O. HOWARD. 1892. A new fruit pest – *Syneta albida* Lec. *Insect Life* 4(11-12):396.
- RILEY, C. V. AND L. O. HOWARD. 1893. The red-legged flea-beetle. (*Crepidodera rufipes* L.). *Insect Life* 5(5):334-342.
- RILEY, E. G. 1979. A new species of *Phyllobrotica* Chevrolat (Coleoptera: Chrysomelidae) from the prairies of southwestern Missouri. *The Coleopterists Bulletin* 33(3):331-335.
- RILEY, E. G. 1985a. Identification of *Cassida atripes* LeConte, 1859, and *Coptocyclus bisignatus* Boheman, 1855, two North American tortoise beetles (Coleoptera: Chrysomelidae: Cassidinae). *Journal of the Kansas Entomological Society* 58(1):53-61.
- RILEY, E. G. 1985b. Review of the North American species of *Glypturoplata* Uhmann, 1940 (Coleoptera: Chrysomelidae: Hispinae). *Journal of the Kansas Entomological Society* 58(3):428-436.

- RILEY, E. G. 1986a. Review of the tortoise beetle genera of the tribe Cassidinae occurring in America north of Mexico (Coleoptera: Chrysomelidae: Cassidinae). *Journal of the New York Entomological Society* 94(1):98-114.
- RILEY, E. G. 1986b. Notes on *Cassida relictata*, a tortoise beetle endemic to North America, with a key to Nearctic species of *Cassida* (Coleoptera: Chrysomelidae). *Entomological News* 97(4):141-146.
- RILEY, E. G. AND E. U. BALSBAUGH. 1988. Two Middle American leaf beetles (Coleoptera: Chrysomelidae) newly recorded from the United States. *Entomological News* 99(3):148-152.
- RILEY, E. G., S. M. CLARK, R. W. FLOWERS, AND A. J. GILBERT. 2002. Chrysomelidae Latreille 1802. Pages 617-691 in R. H. Arnett, M. C. Thomas, P. E. Skelley, and J. H. Frank (eds.). *American Beetles. Volume 2. Polyphaga: Scarabaeoidea through Curculionoidea*. CRC Press, Boca Raton, Florida.
- RILEY, E. G., S. M. CLARK, AND A. J. GILBERT. 2001. New records, nomenclatural changes, and taxonomic notes for select North American leaf beetles (Coleoptera: Chrysomelidae). *Insecta Mundi* 15(1):1-17.
- RILEY, E. G., S. M. CLARK, AND T. N. SEENO. 2003. Catalog of the leaf beetles of America north of Mexico (Coleoptera: Megalopodidae, Orsodacnidae and Chrysomelidae, excluding Bruchinae). *Coleopterists Society, Special Publication* 1:1-290.
- RILEY, E. G. AND W. R. ENNS. 1979. An annotated checklist of Missouri leaf beetles (Coleoptera: Chrysomelidae). *Transactions, Missouri Academy of Science* 13:53-83.
- RILEY, E. G. AND W. R. ENNS. 1982. Supplement to an annotated checklist of Missouri leaf beetles (Coleoptera: Chrysomelidae): new state records and host plant associations. *Entomological News* 93(1):32-36.
- RILEY, E. G. AND A. J. GILBERT. 2000 (1999). Three new species of *Cryptocephalus* from the United States and a new United States record (Coleoptera: Chrysomelidae, Cryptocephalinae). *Occasional Papers of the Consortium Coleopterorum* 3(1):30-35.
- RILEY, T. J. 1983. Damage to soybean seeds and seedlings by larvae of the flea beetle *Systema frontalis* (Coleoptera: Chrysomelidae). *Journal of the Georgia Entomological Society* 18(3):291-293.
- RÍOS-ROSILLO, F. AND S. ROMERO-PARRA. 1982. Importancia de los daños al maíz por insectos del suelo en el Estado de Jalisco, México. (Coleoptera). *Folia Entomológica Mexicana* 52:41-60.
- RISCH, S. 1976. Effect of variety of cowpea (*Vigna unguiculata* L.) on feeding preferences of three chrysomelid beetles, *Cerotoma ruficornis rogersi*, *Diabrotica balteata* and *Diabrotica adelpha*. *Turrialba* 26(4):327-330.
- RITCHER, P. O. 1932. Hibernation of the striped cucumber beetle, *Diabrotica vittata* (Fab.), and records of spring food plants. *Journal of Economic Entomology* 25:935-936.
- ROBERT, A. 1947. Etude des dégâts du *Baliosus ruber* (Chrysomélides) sur le tilleul (*Tilia americana*). *Rapport de la Société de Québec pour la Protection des Plantes* 30:118-124.
- ROBERTSON, *. 1962. Larger elm leaf beetle (*Monocesta coryli*). *Cooperative Economic Insect Report* 12(30):833-834.
- ROBERTSON, C. 1889a. Flowers and insects. I. *The Botanical Gazette* 14(1):120-126.
- ROBERTSON, C. 1889b. Flowers and insects. III. *The Botanical Gazette* 14(12):297-304.
- ROBERTSON, C. 1890. Flowers and insects. IV. *The Botanical Gazette* 15(4):79-84.
- ROBERTSON, C. 1891. Flowers and insects, Asclepiadaceae to Scrophulariaceae. *Transactions of the Academy of Science of St. Louis* 5:569-598.
- ROBERTSON, C. 1892a. Flowers and insects. VIII. *The Botanical Gazette* 17:173-179.
- ROBERTSON, C. 1892b. Flowers and insects. IX. *The Botanical Gazette* 17(9):269-276.
- ROBERTSON, C. 1894a. Flowers and insects. XII. *The Botanical Gazette* 19:103-112.
- ROBERTSON, C. 1894b. Flowers and insects – Rosaceae and Compositae. *Transactions of the Academy of Science of St. Louis* 6(14):435-480.
- ROBERTSON, C. 1896a. Flowers and insects. XV. *The Botanical Gazette* 21:72-81.
- ROBERTSON, C. 1896b. Flowers and insects. Contributions to an account of the ecological relations of the entomophilous flora and the anthophilous insect fauna of the neighborhood of Carlinville, Illinois. *Transactions of the Academy of Science of St. Louis* 7(6):151-179.
- ROBERTSON, C. 1896c. Flowers and insects. XVI. *The Botanical Gazette* 21:266-274.
- ROBERTSON, C. 1898. Flowers and insects. XVIII. *The Botanical Gazette* 25(4):229-245.
- ROBERTSON, C. 1927. Florida flowers and insects. *Transactions of the Academy of Science of St. Louis* 25:277-324.
- ROBERTSON, C. 1929 (1928). Flowers and Insects. *Lists of Visitors of Four Hundred and Fifty-three Flowers*. The Science Press Printing Company, Lancaster, Pennsylvania. 221 pages.
- ROBERTSON, J. G. 1966. The chromosomes of bisexual and parthenogenetic species of *Calligrapha* (Coleoptera: Chrysomelidae) with notes on sex ratio, abundance and egg number. *Canadian Journal of Genetics and Cytology* 8:695-732.
- ROBINSON, J. V. 1974. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). *Cooperative Economic Insect Report* 24(44):839.
- ROCKWOOD, L. P. AND T. R. CHAMBERLIN. 1943. The western spotted cucumber beetle as a pest of forage crops in the Pacific Northwest. *Journal of Economic Entomology* 36(6):837-842.
- RODRÍGUEZ, V. 1993. Mating behavior in *Charidotella* sp. nr. *sexpunctata* (Coleoptera: Chrysomelidae: Cassidinae). *The Coleopterists Bulletin* 47(1):37-38.
- RODRIGUEZ-DEL-BOSQUE, L. A. AND A. MAGALLANES-ESTALA. 1994. Seasonal abundance of *Diabrotica balteata* and other Diabroticina beetles (Coleoptera: Chrysomelidae) in northeastern Mexico. *Environmental Entomology*

Literature Cited

- 23(6):1409-1415.
- ROEMHILD, G. R. 1955. Flea beetles. Cooperative Economic Insect Report 5(30):714.
- ROEMHILD, G. R. 1959. Summary of insect conditions – 1958, Montana. Cooperative Economic Insect Report 9(3): 23-25.
- ROEMHILD, G. R. 1962. Flea beetles. Cooperative Economic Insect Report 12(31):857.
- ROGERS, C. E. 1976. Using insects to control weeds. Insect World Digest 3(1):8-10.
- ROGERS, C. E. 1977. Bionomics of the sunflower beetle. Environmental Entomology 6(3):466-468.
- ROGERS, C. E. 1988. Insects from native and cultivated sunflowers (*Helianthus*) in southern latitudes of the United States. Journal of Agricultural Entomology 5(4):267-287.
- ROGERS, C. E. AND T. E. THOMPSON. 1978. Resistance in wild *Helianthus* to the sunflower beetle. Journal of Economic Entomology 71:622-623.
- ROGERS, C. E. AND T. E. THOMPSON. 1980. *Helianthus* resistance to the sunflower beetle (Coleoptera: Chrysomelidae). Journal of the Kansas Entomological Society 53(4):727-730.
- ROHWER, K. S., F. E. GUYTON, AND F. S. CHAMBERLIN. 1953. Status of the yellow-margined leaf beetle. Cooperative Economic Insect Report 3(12):194-195.
- ROLFS, P. H. 1891. Development of *Dibolia aerea*. Entomological News 2(1):13.
- ROLSTON, L. H., R. MAYES, P. EDWARDS, AND M. WINGFIELD. 1965. Biology of the eggplant tortoise beetle (Coleoptera: Chrysomelidae). Journal of the Kansas Entomological Society 38(4):362-366.
- ROLSTON, L. H. AND P. ROUSE. 1960. Control of grape colaspis and rice water weevil by seed or soil treatment. Arkansas Agricultural Experiment Station Bulletin 624:1-10.
- ROLSTON, L. H. AND P. ROUSE. 1965. The biology and ecology of the grape colaspis, *Colaspis flavida* Say, in relation to rice production in the Arkansas Grand Prairie. Arkansas Agricultural Experiment Station Bulletin 694:1-31.
- ROMNEY, V. E. 1946. The insect community found on a perennial peppergrass in southern New Mexico and southwestern Texas. Ecology 27(3):258-262.
- RONEY, *. 1967. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 17(1):3.
- ROOT, R. B. 1973. Organization of a plant-arthropod association in simple and diverse habitats: the fauna of collards (*Brassica oleracea*). Ecological Monographs 43:95-124.
- ROOT, R. B. 1996. Herbivore pressure on goldenrods (*Solidago altissima*): its variation and cumulative effects. Ecology 77(4):1074-1087.
- ROOT, R. B. AND N. CAPPUCCINO. 1992. Patterns of population change and the organization of the insect community associated with goldenrod. Ecological Monographs 62(3):393-420.
- ROOT, R. B. AND F. J. MESSINA. 1983. Defensive adaptations and natural enemies of a case-bearing beetle, *Exema canadensis* (Coleoptera: Chrysomelidae). Psyche 90:67-80.
- ROOT, R. B. AND J. O. TAHVANAINEN. 1969. Role of winter cress, *Barbarea vulgaris*, as a temporal host in the seasonal development of the crucifer fauna. Annals of the Entomological Society of America 62(4):852-855.
- ROSELLE, R. E. 1960. Southern corn rootworm (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 10(42):963.
- ROSENFELD, A. H. 1911. Insects and spiders in Spanish moss. Journal of Economic Entomology 4(4):398-409.
- ROSEWALL, O. W. 1922. Insects of the yellow thistle (Hem., Col., Lepid., Dip., Hym.). Entomological News 33:176-180.
- ROSS, H. H. 1965. A Textbook of Entomology, 3rd Edition. John Wiley & Sons, Inc., New York. 539 pages.
- ROSS, J. P. 1963. Transmission of bean pod mottle virus in soybeans by beetles. United States Department of Agriculture, Agricultural Research Service, Crops Research Division, The Plant Disease Reporter 47(12):1049-1050.
- ROTH, V. D. 1954. Western spotted cucumber beetle (*Diabrotica undecimpunctata*). Cooperative Economic Insect Report 4(32):737.
- ROTH, V. D. 1960. Flea beetles. Cooperative Economic Insect Report 10(41):946.
- ROTH, V. D. 1962. Western striped flea beetle (*Phyllotreta ramosa*). Cooperative Economic Insect Report 12(28):766.
- ROUSE, E. P. AND L. N. MEDVEDEV. 1972. Chrysomelidae of Arkansas. Arkansas Academy of Science Proceedings 26: 77-82.
- ROUSE, E. P. AND W. H. WHITCOMB. 1957. The grape colaspis as a pest of rice in Arkansas. Bulletin of the Entomological Society of America 3(3):44.
- ROWELL, J. O. AND A. P. MORRIS. 1961. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 11(46):1048.
- ROY, E. 1902. Encore un. Le Naturaliste Canadien 29(10):145-149.
- RUBERSON, J. R., M. J. TAUBER, C. A. TAUBER, AND W. M. TINGEY. 1989. Interactions at three trophic levels: *Edovum puttleri* Grissell (Hymenoptera: Eulophidae), the Colorado potato beetle, and insect-resistant potatoes. The Canadian Entomologist 121:841-851.
- RUESINK, W. G. 1984. Soybean as a host for the leafminer *Sumitrosis rosea* (Coleoptera: Chrysomelidae). Journal of Economic Entomology 77:108-109.
- RUPPEL, R. F. 1964. Biology of the cereal leaf beetle. Proceedings of the North Central Branch, Entomological Society of America 19:122-124.

- RUPPEL, R. F. AND T. R. CASTRO. 1963. Cereal leaf beetle (*Oulema melanopa*). Cooperative Economic Insect Report 13(18):456.
- RUPPEL, R. F., M. S. GOMULINSKI, AND T. R. CASTRO. 1963. Cereal leaf beetle (*Oulema melanopa*). Cooperative Economic Insect Report 13(41):1207.
- RUPPEL, R. F. AND * HARMON. 1976. Northern corn rootworm (*Diabrotica longicornis*). Cooperative Plant Pest Report 1(43):792.
- RUPPEL, R. F. AND * REMINGTON. 1964. Cereal leaf beetle (*Oulema melanopa*). Cooperative Economic Insect Report 14(12):209.
- RUPPEL, R. F. AND W. M. RING. 1963a. Cereal leaf beetle (*Oulema melanopa*). Cooperative Economic Insect Report 13(33):942.
- RUPPEL, R. F. AND W. M. RING. 1963b. Cereal leaf beetle (*Oulema melanopa*). Cooperative Economic Insect Report 13(37):1074.
- RUPPEL, R. F. AND W. M. RING. 1965. Cereal leaf beetle (*Oulema melanopa*). Cooperative Economic Insect Report 15(18):415.
- RUPPEL, R. F. AND * TURNER. 1965a. Cereal leaf beetle (*Oulema melanopa*). Cooperative Economic Insect Report 15(19):443.
- RUPPEL, R. F. AND * TURNER. 1965b. Cereal leaf beetle (*Oulema melanopa*). Cooperative Economic Insect Report 15(29):781.
- RUSSELL, L. K. 1968. The Faunal Relationships of the Coleoptera of Montana, West of the Continental Divide, with a List of the Species Known to Occur There. M. S. Thesis. University of Washington, Seattle, Washington. 208 pages.
- RUTLEDGE, *. 1966. Flea beetles. Cooperative Economic Insect Report 16(22):478.
- RUTLEDGE, *. 1968. Bean leaf beetle (*Cerotoma trifurcata*). Cooperative Economic Insect Report 18(19):390.
- RUTLEDGE, * AND * ST. CLOUD. 1965. Southern corn rootworm (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 15(47):1278.
- SABA, F. 1970. Host plant spectrum and temperature limitations of *Diabrotica balteata*. The Canadian Entomologist 102:684-691.
- SADY, M. B. 1994. Survey of the blue milkweed beetle, *Chrysochus colbaltinus* [sic] LeConte (Coleoptera: Chrysomelidae), in western Nevada. The Coleopterists Bulletin 48(3):299.
- SAILSBURY, M. B. 1943. The comparative morphology and taxonomy of some larval Criocerinae (Coleoptera, Chrysomelidae). Bulletin of the Brooklyn Entomological Society 38:59-74, 128-139.
- SAKURADA, *. 1966. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 16(29):703.
- SAMUELSON, G. A. 1988. *Systema blanda* Melsheimer. Proceedings of the Hawaiian Entomological Society 28:3-4.
- SAMUELSON, G. A. 1994. Pollen consumption and digestion by leaf beetles. Pages 179-183 in P. H. Jolivet, M. L. Cox, and E. Petitpierre (eds.). Novel Aspects of the Biology of Chrysomelidae. Kluwer Academic Publishers, The Netherlands.
- SAMUELSON, G. A. AND B. R. KUMASHIRO. 1995. *Pagria signata* (Motschulsky) (Coleoptera: Chrysomelidae). Proceedings of the Hawaiian Entomological Society 32:8-9.
- SAMUELSON, G. A., B. R. KUMASHIRO, AND D. W. JAMIESON. 1999. *Cassida circumdata* Herbst established in the Hawaiian Islands (Coleoptera: Chrysomelidae). Bishop Museum Occasional Papers 59:29-31.
- SANDERS, *. 1955. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 5(11):224.
- SANDERS, *. 1965. A flea beetle (*Phyllecthrus gentilis*). Cooperative Economic Insect Report 15(25):651.
- SANDERSON, E. D. 1899. Sweet potato insects. The Maryland Agricultural Experiment Station, Bulletin 59:129-146.
- SANDERSON, E. D. 1900. The larvae of *Donacia piscatrix*, Lac., and *crassipes*, Fab. The Canadian Entomologist 32(9):249-263.
- SANDERSON, E. D. 1906. Texas notes I. Entomological News 17(6):210-213.
- SANDERSON, E. D. AND L. M. PEAIRS. 1931. Insect Pests of Farm, Garden and Orchard, Third Edition. John Wiley & Sons, Inc., New York. 568 pages.
- SANDERSON, M. W. 1948. Larval, pupal, and adult stages of North American *Physonota* (Chrysomelidae). Annals of the Entomological Society of America 41(4):468-477.
- SANDERSON, M. W. 1957. The status of the tortoise beetle *Metriorhynchus ormondensis* Blatchley. Entomological News 68(8):222-223.
- SANDERSON, M. W. 1967. New West Indian Hispinae, with notes and keys (Coleoptera: Chrysomelidae). Caribbean Journal of Science 7(3-4):135-139.
- SANTIAGO-BLAY, J. A. 1990 (1989). Seasonal occurrence and host plant feeding preferences of adult *Monoxia* n. sp. 1 (Coleoptera: Chrysomelidae: Galerucinae). Entomography 6:397-401.
- SANTIAGO-BLAY, J. A. AND N. VIRKKI. 1996. Evolutionary relationships within *Monoxia* (Coleoptera: Chrysomelidae: Galerucinae): chromosomal evidence for its intrageneric classification. Caryologia 49(3-4):257-265.
- SARTOR, C. F. 1970a. Southern corn rootworm (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 20(45):758.
- SARTOR, C. F. 1970b. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect

Literature Cited

- Report 20(48):789.
- SARTOR, C. F. 1970c. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 20(49):797.
- SANTORO, F. H., A. BEZZI, A. VIGÉVANO, AND F. CANTOS. 1979. Biología del nigríto de la batata, *Typophorus nigrítus nitídulus* (F) y ensayo preliminar sobre control químico de adultos (Coleoptera – Chrysomelidae – Eumolpinae). *Idia* 373-378:13-44.
- SASSI, D. 1991. Le cassidine Appenniniche del Museo di Storia Naturale di Verona (Coleoptera Chrysomelidae). *Bollettino del Museo Civico di Storia Naturale – Verona* 18:53-90.
- SAUNDERS, *. 1977. Elm leaf beetle (*Pyrrhalta luteola*). Cooperative Plant Pest Report 2(39):784.
- SAWYER, W. S. 1920. The cranberry rootworm beetle (*Rhabdopterus picipes*) as an apple pest. (Coleoptera). *The Canadian Entomologist* 52(12):265.
- SAY, T. 1824. Descriptions of coleopterous insects collected in the late expedition to the Rocky Mountains, performed by order of Mr. Calhoun, Secretary of War, under the command of Major Long. *Journal of the Academy of Natural Sciences of Philadelphia* 3:403-462.
- SAY, T. 1826. Descriptions of new species of coleopterous insects inhabiting the United States. *Journal of the Academy of Natural Sciences of Philadelphia* 5:237-284, 293-304.
- SCAMMELL, H. B. 1915. The cranberry rootworm. *Bulletin of the United States Department of Agriculture* 263:1-8.
- SCAMMELL, H. B. 1917. Cranberry insect problems and suggestions for solving them. United States Department of Agriculture, Farmers' Bulletin 860:1-42.
- SCARBROUGH, D. 1999. Elm leaf beetle. Minnesota Department of Natural Resources, Division of Forestry, Forest Insect & Disease Newsletter, May 1, 1999. Pages 12-14.
- SCHABER, B. D. 1980. External morphology of the adult thistle flea beetle, *Altica carduorum* (Coleoptera: Chrysomelidae). *Proceedings of the South Dakota Academy of Science* 59:80-90.
- SCHABER, B. D., E. U. BALSBAUGH, AND B. H. KANTACK. 1975. Biology of the flea beetle, *Altica carduorum* (Col.: Chrysomelidae) on Canada thistle (*Cirsium arvense*) in South Dakota. *Entomophaga* 20(4):325-335.
- SCHAEFFER, C. 1904. New genera and species of Coleoptera. *Journal of the New York Entomological Society* 12(4):197-236.
- SCHAEFFER, C. 1905. Some additional new genera and species of Coleoptera found within the limit of the United States. Brooklyn Institute Museum, Science Bulletin 1(7):141-179.
- SCHAEFFER, C. 1906. On new and known genera and species of the family Chrysomelidae. Brooklyn Institute Museum, Science Bulletin 1(9):221-253.
- SCHAEFFER, C. 1912. On *Metachroma laterale*, *pallidum* and *laevicolle* (Coleop.). *Bulletin of the Brooklyn Entomological Society* 8:25.
- SCHAEFFER, C. 1915. New Coleoptera and miscellaneous notes. III. *Journal of the New York Entomological Society* 23(4):235-238.
- SCHAEFFER, C. 1920 (1919). Synonymical and other notes on some species of the family Chrysomelidae and descriptions of new species. *Journal of the New York Entomological Society* 27:307-340.
- SCHAEFFER, C. 1924. On a few new and old Chrysomelidae. *Journal of the New York Entomological Society* 32:138-145.
- SCHAEFFER, C. 1925a. Revision of the New World species of the tribe Donaciini of the coleopterous family Chrysomelidae. Brooklyn Museum Science Bulletin 3(3):45-164.
- SCHAEFFER, C. 1925b. New species and varieties of North American Cassidini (Coleoptera, Chrysomelidae). *Journal of the New York Entomological Society* 33:233-237.
- SCHAEFFER, C. 1926. New species of *Boloschesis* (= *Chamys*) with notes on known species (Coleoptera; Chrysomelidae; Fulcidacinae). *Proceedings of the Entomological Society of Washington* 28(8):181-187.
- SCHAEFFER, C. 1928a. (1926). Family Chrysomelidae. Pages 457-485 in M. D. Leonard. A list of the insects of New York, with a list of the spiders and certain other allied groups. Cornell University, Agricultural Experiment Station, Memoir 101.
- SCHAEFFER, C. 1928b. Notes on the species of *Lina* and allied genera (Coleoptera, Chrysom.). *The Canadian Entomologist* 60:42-47.
- SCHAEFFER, C. 1928c. The North American species of *Hydrothassa* with notes on other Chrysomelidae and a description of new species and a variety (Col.). *Journal of the New York Entomological Society* 36:287-291.
- SCHAEFFER, C. 1932a. Notes on some Galerucinae with descriptions of new species (Col., Chrysomelidae). *The Canadian Entomologist* 64:236-239.
- SCHAEFFER, C. 1932b. Notes on some Halticinae with descriptions of new species (Col. Chrysomelidae). *Bulletin of the Brooklyn Entomological Society* 27:239-245.
- SCHAEFFER, C. 1933. Short studies in the Chrysomelidae (Coleoptera). *Journal of the New York Entomological Society* 41:297-325.
- SCHAEFFER, C. 1934 (1933). Short studies in the Chrysomelidae (Coleoptera). *Journal of the New York Entomological Society* 41:457-480.
- SCHALK, J. M. 1986. Rearing and handling of *Diabrotica balteata*. Pages 49-56 in J. L. Krysan and T. A. Miller (eds.). *Methods for the Study of Pest Diabrotica*. Springer-Verlag, New York.

- SCHALK, J. M. AND C. S. CREIGHTON. 1989. Influence of sweet potato cultivars in combination with a biological control agent (Nematoda: *Heterorhabditis heliothidis*) on larval development of the banded cucumber beetle (Coleoptera: Chrysomelidae). *Environmental Entomology* 18(5):897-899.
- SCHALK, J. M. AND A. JONES. 1982. Methods to evaluate sweet potatoes for resistance to the banded cucumber beetle in the field. *Journal of Economic Entomology* 75:76-79.
- SCHALK, J. M. AND J. K. PETERSON. 1990. A meretic diet for banded cucumber beetle larvae (*Diabrotica balteata* LeConte). *Journal of Agricultural Entomology* 7(4):333-336.
- SCHALK, J. M. AND A. K. STONER. 1979. Tomato production in Maryland: effect of different densities of larvae and adults of the Colorado potato beetle. *Journal of Economic Entomology* 72:826-829.
- SCHENK, D. AND S. BACHER. 2002. Functional response of a generalist insect predator to one of its prey species in the field. *Journal of Animal Ecology* 71:524-531.
- SCHERER, G. 1974. Review of North American species of *Orthaltica* with new generic synonymy (Coleoptera: Chrysomelidae: Alticinae). *The Coleopterists Bulletin* 28(2):65-72.
- SCHMITT, M. 1988. The Criocerinae: biology, phylogeny and evolution. Pages 475-495 in P. Jolivet, E. Petitpierre, and T. H. Hsiao (eds.). *Biology of Chrysomelidae*. Kluwer Academic Publishers, The Netherlands.
- SCHOENE, W. J. 1938. Tobacco flea beetle outbreak. *Journal of Economic Entomology* 31(3):456.
- SCHOW, S. W. 1963. Flea beetles. *Cooperative Economic Insect Report* 13(22):580.
- SCHOW, S. W. AND H. C. MANIS. 1962. Leaf beetles. *Cooperative Economic Insect Report* 12(20):495.
- SCHRANK, F. DE P. 1781. *Enumeratio insectorum austriacae indigenorum. Augustae vindelicorum*. 548 pages.
- SCHUDER, D. L. 1975. The elm leaf beetle. Purdue University, Cooperative Extension Service, Department of Entomology, Publication E-25:1-2.
- SCHULTZ, W. T. 1970. The Eumolpinae of America North of Mexico with Revisions of Selected Genera (Coleoptera: Chrysomelidae). Ph.D. Dissertation. The Ohio State University, Columbus, Ohio. 342 pages.
- SCHULTZ, W. T. 1976. Review of the genus *Spintherophyta* (Coleoptera: Chrysomelidae) in North America north of Mexico. *Annals of the Entomological Society of America* 69(5):877-881.
- SCHULTZ, W. T. 1977. Review of the genus *Rhabdopterus* (Coleoptera: Chrysomelidae) in America north of Mexico. *Annals of the Entomological Society of America* 70(6):968-974.
- SCHULTZ, W. T. 1980. A new species of *Nodonota* (Coleoptera: Chrysomelidae) with a review of the United States species. *Annals of the Entomological Society of America* 73(2):200-203.
- SCHWARZ, E. A. 1876. List of Coleoptera collected in Michigan in 1874. *Psyche* 1:145-148.
- SCHWARZ, E. A. 1878. The Coleoptera of Florida. *Proceedings of the American Philosophical Society* 17:353-372.
- SCHWARZ, E. A. 1883. Injury done by *Colaspis tristis*. *The American Naturalist, an Illustrated Magazine of Natural History* 17(1):978.
- SCHWARZ, E. A. 1890. Food-plants and food-habits of some North American Coleoptera. *Proceedings of the Entomological Society of Washington* 1:231-233.
- SCHWARZ, E. A. 1891. Coleoptera on black locust (*Robinia pseudacacia*). *Proceedings of the Entomological Society of Washington* 2:73-76.
- SCHWARZ, E. A. 1893. Note on the food-habits of some halticids. *Proceedings of the Entomological Society of Washington* 2:182-183.
- SCHWARZ, E. A. 1899. [Untitled]. *Proceedings of the Entomological Society of Washington* 4(4):397.
- SCHWARZ, E. A. 1902. [Untitled]. *Proceedings of the Entomological Society of Washington* 5(2):137.
- SCHWARZ, E. A. 1904. [Untitled]. *Proceedings of the Entomological Society of Washington* 6:7-8.
- SCHWARZ, E. A. 1912. [Untitled]. *Proceedings of the Entomological Society of Washington* 14:212-213.
- SCHWARZLÄNDER, M. 2000. Host specificity of *Longitarsus quadriguttatus* Pont., a below-ground herbivore for the biological control of houndstongue. *Biological Control* 18:18-26.
- SCHWEISSING, F. G. 1965. Pale-striped flea beetle (*Systema blanda*). *Cooperative Economic Insect Report* 15(31):855.
- SCHWEISSING, F. G. 1967. Flea beetles. *Cooperative Economic Insect Report* 17(28):618.
- SCHWITZGEBEL, R. B. AND D. A. WILBUR. 1942. Coleoptera associated with ironweed, *Vernonia interior* Small in Kansas. *Journal of the Kansas Entomological Society* 15(2):37-44.
- SCOTT, H. E. 1953. Elongate flea beetle (*Systema elongata*). *Cooperative Economic Insect Report* 3(39):698.
- SCOTT, H. E. 1954. Pale-striped flea beetle (*Systema blanda*). *Cooperative Economic Insect Report* 4(25):540.
- SCOTT, H. M. 1924. Observations on the habits and life history of *Gallerucella* [sic] *nymphaeae* (Coleoptera). *Transactions of the American Microscopical Society* 43(1):11-16.
- SCOTT, I. T., B. F. BOILLLOT, AND K. C. SULLIVAN. 1932. Insect pests and plant diseases of the greenhouse and flower garden: their regulation and control. Missouri State Board of Agriculture, *The Bulletin* 30(4):1-68.
- SCOTT, L. L. 1908. The Ohio species of the genus *Disonychia*. *The Ohio Naturalist* 9(3):423-430.
- SCUDDER, S. H. 1878. Plantain beetles. *Psyche* 2:154.
- SCUDDER, S. H. 1891. The early stages of three Coleoptera. *Psyche* 6:173-175.
- SEAGO, A. AND S. W. LINGAFELTER. 2003. Discovery of *Crepidodera bella* Parry (Coleoptera: Chrysomelidae: Alticini) in Maryland and redescription. *Journal of the New York Entomological Society* 111(1):51-56.
- SEENO, T. N. AND F. G. ANDREWS. 1972. Alticinae of California, part 1: *Epitrix* spp. (Coleoptera: Chrysomelidae). *The Coleopterists Bulletin* 26(2):53-61.

Literature Cited

- SEIBELS, *. 1961a. Cucumber beetles (*Diabrotica* spp.). Cooperative Economic Insect Report 11(38):888.
- SEIBELS, *. 1961b. Sweetpotato insects. Cooperative Economic Insect Report 11(52):1130.
- SEIBELS, *. 1962a. False potato beetle (*Leptinotarsa juncta*). Cooperative Economic Insect Report 12(19):461.
- SEIBELS, *. 1962b. False potato beetle (*Leptinotarsa juncta*). Cooperative Economic Insect Report 12(21):520.
- SEIBELS, *. 1963a. Flea beetles. Cooperative Economic Insect Report 13(19):488.
- SEIBELS, *. 1963b. Colorado potato beetle (*Leptinotarsa decemlineata*). Cooperative Economic Insect Report 13(19):488.
- SEIBELS, *. 1963c. Bean leaf beetle (*Cerotoma trifurcata*). Cooperative Economic Insect Report 13(22):581.
- SEIBELS, *. 1966. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 16(22):486.
- SEIBELS, *. 1967. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 17(50):1056.
- SEIBELS, * AND * WALLACE. 1963. Flea beetles. Cooperative Economic Insect Report 13(22):580.
- SELL, R. A. 1915. Some notes on the western twelve-spotted and the western striped cucumber beetles. Journal of Economic Entomology 8:515-520.
- SELL, R. A. 1916. Notes on the twelve-spotted cucumber beetle. Journal of Economic Entomology 9:551-556.
- SELL, R. A. 1918. Notes on the hibernating of the belted cucumber beetle (Col.). Entomological News 29:93-99.
- SELMAN, B. J. 1994. Eggs and oviposition in chrysomelid beetles. Pages 69-74 in P. H. Jolivet, M. L. Cox, and E. Petitpierre (eds.). Novel Aspects of the Biology of Chrysomelidae. Kluwer Academic Publishers, The Netherlands.
- SELMAN, B. J. AND G. B. VOGT. 1971. Lectotype designations in the South American genus *Agasicles* (Coleoptera: Chrysomelidae), with description of a new species important as a suppressant of alligatorweed. Annals of the Entomological Society of America 64(5):1016-1020.
- SENF, D. AND L. COOKE. 1994. Leafy spurge is reunited with old enemy. United States Department of Agriculture, Agricultural Research Service, Agricultural Research 42(4):20-22.
- SENGUPTA, G. C. 1957. On the biology of *Lema praeusta* Fab. Journal of Economic Entomology 50(4):471-474.
- SERVADEI, A. 1938. Reperti sulla biologia e morfologia della *Galerucella nymphaeae* L. (Col. Chrysomelidae). Redia 24:1-31.
- SETÄLÄ, H. AND I. MÄKELÄ, 1991. *Galerucella nymphaeae* (Col., Chrysomelidae) grazing increases *Nuphar* leaf production and affects carbon and nitrogen dynamics in ponds. Oecologia 86:170-176.
- SEVERIN, H. C. 1919a. The striped cucumber beetle. Office of the State Entomologist of South Dakota, Circular 12:1-6.
- SEVERIN, H. C. 1919b. The Colorado potato beetle. Office of the State Entomologist of South Dakota, Circular 13:1-7.
- SEVERIN, H. C. 1922. The striped cottonwood leaf beetle. South Dakota, Office of the State Entomologist, Circular 29:1-6.
- SEVERIN, H. H. P. 1922. Sea coast flea beetle (*Disonycha maritima* Mann.) injurious to sugar beets in Sacramento Valley, California. Journal of Economic Entomology 15:312.
- SHADE, R. E. AND M. C. WILSON. 1967. Leaf-vein spacing as a factor affecting larval feeding behavior of the cereal leaf beetle, *Oulema melanopus* (Coleoptera: Chrysomelidae). Annals of the Entomological Society of America 60(3):493-496.
- SHANDS, W. A. AND B. J. LANDIS. 1964. Potato insects, their biology and biological and cultural control. United States Department of Agriculture, Agricultural Research Service, Agriculture Handbook 264:1-61.
- SHANDS, W. A., R. F. POOLE, AND E. G. MOSS. 1938. Conditions involved in the severe losses of newly set tobacco in North Carolina, 1937. Journal of Economic Entomology 31(6):715-719.
- SHARMA, G. C. AND C. V. HALL. 1971. Influence of cucurbitacins, sugars, and fatty acids on cucurbit susceptibility to spotted cucumber beetle. Journal of the American Society for Horticultural Science 96(5):675-680.
- SHARMA, G. C. AND C. V. HALL. 1973. Relative attractance of spotted cucumber beetle to fruits of fifteen species of Cucurbitaceae. Environmental Entomology 2(1):154-156.
- SHAW, F. R., J. S. BAILEY, AND E. H. WHEELER. 1950. The blueberry flea beetle. Journal of Economic Entomology 43(3):387.
- SHAW, J. T., J. H. PALLUS, AND W. H. LUCKMANN. 1978. Corn rootworm oviposition in soybeans. Journal of Economic Entomology 71(2):189-191.
- SHENEFELT, R. D. AND D. M. BENJAMIN. 1955. Insects of Wisconsin forests. University of Wisconsin, Extension Service, Circular 500:1-110.
- SHEPPARD, R. W. 1946. Occurrence of the elm leaf beetle, *Galerucella xanthomelaena* (Schr.), at St. Catharines, Ontario. The Canadian Entomologist 78:22.
- SHEPPARD, R. W. 1955. New entries of insects to the Niagara Peninsula. Annual Report of the Entomological Society of Ontario 86:31-33.
- SHERMAN, F. 1904. The potato-beetle. *Doryphora 10-lineata*, Say. North Carolina Department of Agriculture, Division of Entomology, Entomological Circular 9:1-7.
- SHIMER, H. 1865. Notes upon *Galeruca vittata* (the striped cucumber bug) with a description of its larva and its breeding place. The Prairie Farmer (New Series) 16(6):109.
- SHIMER, H. 1868. The wavy-striped flea-beetle. The American Naturalist 2:514-517.
- SHIMER, H. 1871. Additional notes on the striped squash beetle. The American Naturalist 5:217-220.

- SHIRAH, *. 1965. A leaf beetle (*Eurypepla jamaicensis*). Cooperative Economic Insect Report 15(20):487.
- SHOLES, O. D. V. 1981. Herbivory by species of *Trirhabda* (Coleoptera: Chrysomelidae) on *Solidago altissima* (Asteraceae): variation between years. Proceedings of the Entomological Society of Washington 83(2):274-282.
- SHOLES, O. D. V. 1984. Responses of arthropods to the development of goldenrod inflorescences (*Solidago*: Asteraceae). The American Midland Naturalist 112(1):1-14.
- SHOLES, O. D. V. 1987. Host plants and seasonal abundance of adult *Capraita subvittata* (Coleoptera: Chrysomelidae: Alticinae). Proceedings of the Entomological Society of Washington 89(4):818-820.
- SHROPSHIRE, L. H. AND K. J. KADOW. 1936. Diseases and insect pests of cabbage and related plants: identification and control. University of Illinois, Agricultural Experiment Station, Circular 454:1-47.
- SHULER, *. 1964. Southern corn rootworm (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 14(13):237.
- SHUTE, S. L. 1976. *Longitarsus jacobaeae* Waterhouse (Col., Chrysomelidae): identity and distribution. The Entomologist's Monthly Magazine 111:33-39.
- SIEBERT, M. W. 1975. Candidates for the biological control of *Solanum elaeagnifolium* Cav. (Solanaceae) in South Africa. 1. Laboratory studies on the biology of *Gratiana lutescens* (Boh.) and *Gratiana pallidula* (Boh.) (Coleoptera: Cassidinae). Journal of the Entomological Society of Southern Africa 38(2):297-304.
- SIEGFRIED, B. D. AND C. A. MULLIN. 1990. Effects of alternative host plants on longevity, oviposition, and emergence of western and northern corn rootworms (Coleoptera: Chrysomelidae). Environmental Entomology 19(3):474-480.
- SIKINYI, E., D. L. HANNAPEL, P. M. IMERMAN, AND H. M. STAHR. 1997. Novel mechanism for resistance to Colorado potato beetle (Coleoptera: Chrysomelidae) in wild *Solanum* species. Journal of Economic Entomology 90(2):689-696.
- SILCOX, C. A. AND G. M. GHIDIU. 1986. Laboratory and field studies on the antifeedant effect of piperonyl butoxide against the Colorado potato beetle on eggplant. Journal of Agricultural Entomology 3(2):135-142.
- SILCOX, C. A., G. M. GHIDIU, AND A. J. FORGASH. 1985. Laboratory and field evaluation of piperonyl butoxide as a pyrethroid synergist against the Colorado potato beetle (Coleoptera: Chrysomelidae). Journal of Economic Entomology 78(6):1399-1405.
- SILFVERBERG, H. 1994. Chrysomelidae in the Arctic. Pages 503-510 in P. H. Jolivet, M. L. Cox, and E. Petitpierre (eds.). Novel Aspects of the Biology of Chrysomelidae. Kluwer Academic Publishers, The Netherlands.
- SIMMONDS, F. J. 1949. Insect attacking *Cordia macrostachya* (Jacq.) Roem. & Schult. in the West Indies. 1. *Physonota alutacea* Boh. (Coleoptera, Cassidinae). The Canadian Entomologist 81(8):185-199.
- SIMPSON, G. W. 1970. Elm flea beetle (*Altica ulmi*). Cooperative Economic Insect Report 20(35):629.
- SINDEN, S. L., L. L. SANFORD, W. W. CANTELO, AND K. L. DEAHL. 1986. Leptine glycoalkaloids and resistance to the Colorado potato beetle (Coleoptera: Chrysomelidae) in *Solanum chacoense*. Environmental Entomology 15(5):1057-1062.
- SINDEN, S. L., L. L. SANFORD, AND S. F. OSMAN. 1980. Glycoalkaloids and resistance to the Colorado potato beetle in *Solanum chacoense* Bitter. American Potato Journal 57:331-343.
- SIRRENE, F. A. 1899. Combating the striped beetle on cucumbers. New York Agricultural Experiment Station Bulletin 158:1-32.
- SISSON, * AND W. D. FRONK. 1968. A leaf beetle (*Trirhabda canadensis*). Cooperative Economic Insect Report 18(30):693.
- SKINNER, H. 1909. [Untitled]. Journal of Economic Entomology 2:257.
- SLEESMAN, J. P. 1940. Resistance in wild potatoes to attack by the potato leafhopper and the potato flea beetle. American Potato Journal 17(1):9-12.
- SLINGERLAND, M. V. 1898. The grape-vine flea-beetle. Cornell University, Agricultural Experiment Station, Bulletin 157:185-213.
- SLINGERLAND, M. V. 1900. The grape root-worm, a new grape pest in New York. Cornell University, Agricultural Experiment Station, Bulletin 184:21-32.
- SLINGERLAND, M. V. AND J. CRAIG. 1902. The grape root-worm: further experiments and cultural suggestions. Cornell University, Agricultural Experiment Station, Bulletin 208:173-200.
- SLINGERLAND, M. V. AND C. R. CROSBY. 1915. Manual of Fruit Insects. The MacMillan Company, New York. 503 pages.
- SLODERBECK, P. E. 1980. Western corn rootworm (*Diabrotica virgifera*). Cooperative Plant Pest Report 5(1):7.
- SLOSSER, J. E. 2003. Biology of *Coleothorpa dominicana franciscana* (LeConte). Southwestern Entomologist 28(2):91-95.
- SMEREKA, E. P. 1965. The life history and habits of *Chrysomela crotchii* Brown (Coleoptera: Chrysomelidae) in north-western Ontario. The Canadian Entomologist 97(5):541-549.
- SMILEY, J. T., J. M. HORN, AND N. E. RANK. 1985. Ecological effects of salicin at three trophic levels: new problems from old adaptations. Science 229:649-651.
- SMILEY, J. T. AND N. E. RANK. 1986. Predation protection versus rapid growth in a montane leaf beetle. Oecologia 70:106-112.
- SMIRNOV, N. N. 1960. Nutrition of *Galerucella nymphaeae* L. (Chrysomelidae), mass consumer of water-lily. Hydrobiologia 15:208-224.

Literature Cited

- SMITH, *. 1968. Flea beetles. Cooperative Economic Insect Report 18(17):331.
- SMITH, C. C. 1940. Biotic and physiographic succession on abandoned eroded farmland. Ecological Monographs 10(3): 421-484.
- SMITH, C. E. AND N. ALLEN. 1932. The migratory habit of the spotted cucumber beetle. Journal of Economic Entomology 25:53-56.
- SMITH, E. H. 1970. Taxonomic Revision of the Genus *Systema* Chevrolat (Coleoptera: Chrysomelidae, Alticinae) North of Mexico. M. S. Thesis, Purdue University, West Lafayette, Indiana. 178 pages.
- SMITH, E. H. 1985. Revision of the genus *Phyllotreta* Chevrolat of America north of Mexico. Part I. The maculate species (Coleoptera: Chrysomelidae, Alticinae). Fieldiana, Zoology (new series) 28:1-168.
- SMITH, F. F. 1967. Controlling insects on flowers. United States Department of Agriculture, Agriculture Information Bulletin 237 (revised):1-81.
- SMITH, G. L. 1942. California cotton insects. California Agricultural Experiment Station Bulletin 660:1-50.
- SMITH, H. S. 1947. Biological control of weeds in the United States. Proceedings of the Entomological Society of Washington 49(6):169-170.
- SMITH, J. B. 1893a (1892). Report of the entomologist. New Jersey State Agricultural Experiment Station, Annual Report 13:389-515.
- SMITH, J. B. 1893b. Insects injurious to cucurbs (melons, squashes, pumpkins, cucumbers, etc.). New Jersey Agricultural Experiment Station Bulletin 94:1-16.
- SMITH, J. B. 1898. [Untitled]. United States Department of Agriculture, Division of Entomology, Bulletin (New Series) 17:23.
- SMITH, J. B. 1900 (1899). Insects of New Jersey, a List of the Species Occurring in New Jersey, with Notes on those of Economic Importance. MacCrellish & Quigley, Trenton, New Jersey. 755 pages.
- SMITH, J. B. 1910a (1909). The insects of New Jersey. New Jersey State Museum, Annual Report 1909. MacCrellish & Quigley, Trenton, New Jersey. 888 pages.
- SMITH, J. B. 1910b. Insects injurious to sweet potatoes in New Jersey. New Jersey Agricultural Experiment Stations Bulletin 229:1-16.
- SMITH, J. B. 1910c. Report of the Entomologist. Annual Report of the New Jersey State Agricultural Experiment Station 30:351-417.
- SMITH, J. C. 1971. Field evaluation of candidate insecticides for control of the southern corn rootworm on peanuts in Virginia. Journal of Economic Entomology 64(1):280-283.
- SMITH, J. C. AND D. M. PORTER. 1971. Evaluation of selected peanut lines for resistance to the southern corn rootworm in the greenhouse. Journal of Economic Entomology 64(1):245-246.
- SMITH, J. M. 1958 (1956). Biological control of Klamath weed, *Hypericum perforatum* L., in British Columbia. Proceedings of the Tenth International Congress of Entomology 4:561-565.
- SMITH, J. W., D. D. KOPP, AND E. U. BALSBAUGH. 1980. Insect pests of rapeseed and mustard in North Dakota. North Dakota State University, Cooperative Extension Service, Circular E-688:1-6.
- SMITH, J. W., C. Y. OSETO, AND E. U. BALSBAUGH. 1979. Litter and soil inhabiting microcoleoptera of southwest North Dakota. Entomological News 90(2):89-94.
- SMITH, L. L. AND D. N. UECKERT. 1974. Influence of insects on mesquite seed production. Journal of Range Management 27(1):61-65.
- SMITH, L. M. AND G. S. KIDO. 1949. The biology of the strawberry rootworm in California. Hilgardia 19(2):25-42.
- SMITH, R. C. 1938. A preliminary report on the insects attacking bindweed, with special reference to Kansas. Transactions of the Kansas Academy of Science 41:183-191.
- SMITH, R. C. 1943. Descriptions of Kansas insects. A list and brief description of the most important or interesting species of insects in Kansas by orders and families. Report of the Kansas State Board of Agriculture 62:117-414.
- SMITH, R. C. 1950. Sweet potato insects in Kansas. Kansas State Horticultural Society, Biennial Report 50:101-110.
- SMITH, R. C. 1952. Southern corn rootworm (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 2(14):191.
- SMITH, R. C. AND D. A. WILBUR. 1937 (1936). Insects injurious to alfalfa, grasses, and allied plants. Kansas Agricultural Experiment Station, Biennial Report of the Director 8:100-103.
- SMITH, R. F. 1966. Distributional patterns of selected western North American Insects. The distribution of *Diabrotica* in western North America. Bulletin of the Entomological Society of America 12(2):108-110.
- SMITH, R. F. AND A. E. MICHELbacher. 1949. The development and behavior of populations of *Diabrotica 11-punctata* in foothill areas of California. Annals of the Entomological Society of America 42:497-510.
- SMITH, S. G. 1971. Parthenogenesis and polyploidy in beetles. American Zoologist 11:341-349.
- SMITH, V. G. 1928. Animal communities of a deciduous forest succession. Ecology 9(4):479-500.
- SNAPP, O. I. 1954. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 4(14):276.
- SNAPP, O. I. 1956. Fuller rose beetle (*Pantomorus godmani*). Cooperative Economic Insect Report 6(9):171.
- SNAPP, O. I., M. R. OSBURN, J. TAYLOR, AND W. C. JOHNSON. 1958. Fruit and nut insects. Pages 94-95 in W. C. Johnson. Summary of insect conditions – 1957, Georgia. Cooperative Economic Insect Report 8(6):93-96.
- SNETZINGER, *. 1961. Leaf beetles. Cooperative Economic Insect Report 11(31):731.

- SOHMER, S. H. AND D. F. SEFTON. 1978. The reproductive biology of *Nelumbo petapetala* (Nelumbonaceae) on the upper Mississippi River. II. The insects associated with the transfer of pollen. *Brittonia* 30(3):355-364.
- SOHN, J. C., S. L. AN, J. E. LEE, AND K. T. PARK. 2002. Notes on exotic species, *Ophraella communa* LeSage (Coleoptera: Chrysomelidae) in Korea. *Korean Journal of Applied Entomology* 41(2):145-150.
- SOMES, M. P. 1916. Some insects of *Solanum carolinense* L., and their economic relations. *Journal of Economic Entomology* 9(1):39-44.
- SORENSEN, K. A. 1993. Cucumber beetles. North Carolina Cooperative Extension Service, Department of Entomology, Vegetable Insect Pest Management, Department of Entomology, Insect Note 25(revised):1-4.
- SORENSEN, K. A. 1994. Flea beetles on vegetables. North Carolina Cooperative Extension Service, Department of Entomology, Vegetable Insect Pest Management, Department of Entomology, Insect Note 27(revised):1-2.
- SORENSEN, K. A. AND J. R. BAKER (eds.). 1983. Insects and Related Pests of Vegetables. Some Important, Common, and Potential Pests in the Southeastern United States. The North Carolina Agricultural Extension Service, Raleigh, North Carolina. 173 pages.
- SOTHERTON, N. W. 1982a. The effects of herbicides on the chrysomelid beetle *Gastrophysa polygoni* (L.) in the laboratory and field. *Zeitschrift für angewandte Entomologie* 94:446-451.
- SOTHERTON, N. W. 1982b. Observations on the biology and ecology of the chrysomelid beetle *Gastrophysa polygoni* in cereal fields. *Ecological Entomology* 7:197-206.
- SPACKMAN, E. W. 1955. Summary of insect conditions – 1955, Wyoming. Cooperative Economic Insect Report 5(47):1056-1057.
- SPAWN, G. B. 1962. Northern corn rootworm (*Diabrotica longicornis*). Cooperative Economic Insect Report 12(40):1078.
- SPAWN, G. B. 1963. Three-lined potato beetle (*Lema trilineata*). Cooperative Economic Insect Report 13(26):725.
- SPENCER, J. L., S. A. ISARD, AND E. LEVINE. 1998. Western corn rootworms on the move: monitoring beetles in corn and soybeans. Pages 10-23 in 1998 Proceedings of the Illinois Agricultural Pesticides Conference, Cooperative Extension Service, University of Illinois at Urbana-Champaign.
- SPENCER, J. L., S. A. ISARD, AND E. LEVINE. 1999. Free flight of western corn rootworm (Coleoptera: Chrysomelidae) to corn and soybean plants in a walk-in wind tunnel. *Journal of Economic Entomology* 92(1):146-155.
- SPENCER, N. R. AND J. R. COULSON. 1976. The biological control of alligatorweed, *Alternanthera philoxeroides*, in the United States of America. *Aquatic Biology* 2:177-190.
- SPEHLING, J. L. H. AND B. K. MITCHELL. 1991. A comparative study of host recognition and the sense of taste in *Leptinotarsa*. *Journal of Experimental Biology* 157:439-459.
- SINK, W. T. 1958. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 8(32):690.
- SINK, W. T. 1959a. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 9(3):19.
- SINK, W. T. 1959b. Summary of insect conditions – 1958, Louisiana. Cooperative Economic Insect Report 9(4):35-38.
- SINK, W. T. 1959c. Southern corn rootworm (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 9(6):65.
- SINK, W. T. 1959d. Pine colaspis (*Colaspis pini*). Cooperative Economic Insect Report 9(23):492.
- SINK, W. T. 1959e. Pine colaspis (*Colaspis pini*). Cooperative Economic Insect Report 9(24):517.
- SINK, W. T. 1959f. Banded cucumber beetle (*Diabrotica balteata*). Cooperative Economic Insect Report 9(29):646.
- SINK, W. T. 1959g. Banded cucumber beetle (*Diabrotica balteata*). Cooperative Economic Insect Report 9(33):749.
- SINK, W. T. 1959h. Banded cucumber beetle (*Diabrotica balteata*). Cooperative Economic Insect Report 9(34):777.
- SINK, W. T. 1959i. Banded cucumber beetle (*Diabrotica balteata*). Cooperative Economic Insect Report 9(36):828.
- SINK, W. T. 1959j. Banded cucumber beetle (*Diabrotica balteata*). Cooperative Economic Insect Report 9(37):847.
- SINK, W. T. 1960a. Cucumber beetles. Cooperative Economic Insect Report 10(21):405.
- SINK, W. T. 1960b. Pine colaspis (*Colaspis pini*). Cooperative Economic Insect Report 10(24):496.
- SINK, W. T. 1960c. Striped cucumber beetle (*Acalymma vittata*). Cooperative Economic Insect Report 10(25):523.
- SINK, W. T. 1960d. Pine colaspis (*Colaspis pini*). Cooperative Economic Insect Report 10(26):565.
- SINK, W. T. 1960e. Banded cucumber beetle (*Diabrotica balteata*). Cooperative Economic Insect Report 10(31):704.
- SINK, W. T. 1960f. Banded cucumber beetle (*Diabrotica balteata*). Cooperative Economic Insect Report 10(35):803.
- SINK, W. T. 1960g. Banded cucumber beetle (*Diabrotica balteata*). Cooperative Economic Insect Report 10(37):851.
- SINK, W. T. 1960h. Banded cucumber beetle (*Diabrotica balteata*). Cooperative Economic Insect Report 10(37):854.
- SPRING, A. AND L. T. KOK. 1997. Field studies on the reproductive capacity and development of *Cassida rubiginosa* (Coleoptera: Chrysomelidae) on musk and Canada thistles. *Environmental Entomology* 26(4):876-881.
- SPRING, A. AND L. T. KOK. 1999. Winter survival of *Cassida rubiginosa* (Coleoptera: Chrysomelidae), a biological control agent of Canada thistle. *Journal of Entomological Science* 34(4):489-493.
- SPRUYT, F. J. 1925. Observations on the egg-laying habits of *Saxinis saucia* Lec. (Coleoptera-Chrysomelidae). *The Pan-Pacific Entomologist* 1(4):176-178.
- STACE SMITH, G. 1929. Coleoptera. *Museum and Art Notes* 4(2):69-74.
- STACE SMITH, G. 1930. Coleoptera. *Museum and Art Notes* 5(1):22-25.
- STACE SMITH, G. 1947. *Anoplitis inaequalis* on *Epilobium* (Coleoptera: Chrysomelidae). *Proceedings of the Entomological Society of British Columbia* 43:24.

Literature Cited

- STAINES, C. L. 1986a. New combination and new synonymy in North American *Stenopodius* (Coleoptera: Chrysomelidae: Hispinae) with a taxonomic note on Uroplatini. *Proceedings of the Entomological Society of Washington* 88(1):192.
- STAINES, C. L. 1986b. An unusual food plant for adult *Cerotoma trifurcata* (Forster) (Coleoptera: Chrysomelidae). *Proceedings of the Entomological Society of Washington* 88(2):392.
- STAINES, C. L. 1986c. A revision of the genus *Brachycoryna* (Coleoptera: Chrysomelidae: Hispinae). *Insecta Mundi* 1(4):231-241.
- STAINES, C. L. 1989. A review of the genus *Octotoma* (Coleoptera: Chrysomelidae, Hispinae). *Insecta Mundi* 3(1):41-56.
- STAINES, C. L. 1991. A host plant for adult *Spintherophyta globosa* (Olivier) (Coleoptera: Chrysomelidae). *The Coleopterists Bulletin* 45(2):200.
- STAINES, C. L. 1994a. A revision of the genus *Anisostena* Weise (Coleoptera: Chrysomelidae, Hispinae). Part II. The subgenus *Anisostena*: Key to the species groups and the ariadne species group. *Insecta Mundi* 8(1-2):125-135.
- STAINES, C. L. 1994b. A revision of the genus *Anisostena* Weise (Coleoptera: Chrysomelidae, Hispinae). Part III. The pilatei species group. *Insecta Mundi* 8(3-4):213-226.
- STAINES, C. L. 1994c. A revision of the genus *Anisostena* Weise (Coleoptera: Chrysomelidae, Hispinae). Part IV. The nigrita species group. *Insecta Mundi* 8(3-4):251-264.
- STAINES, C. L. 1995. Range extensions in North American Hispinae (Coleoptera: Chrysomelidae). *The Great Lakes Entomologist* 28(1):89-92.
- STAINES, C. L. 1996. The Hispinae (Coleoptera: Chrysomelidae) of Nicaragua. *Revista Nicaragüense de Entomología* 37/38:1-65.
- STAINES, C. L. 1997. Cereal leaf beetle (Coleoptera: Chrysomelidae) as a pest of ornamental grasses. *Proceedings of the Entomological Society of Washington* 99(2):376.
- STAINES, C. L. 1999. Chrysomelidae (Coleoptera) new to North Carolina. *The Coleopterists Bulletin* 53(1):27-29.
- STAINES, C. L. AND S. L. STAINES. 1989. Observations on two beetles (Coleoptera) feeding on *Rumex* (Polygonaceae) in Maryland with a review of the literature. *Maryland Entomologist* 3(3):78-79.
- STAINES, C. L. AND D. M. WEISMAN. 2001a. The species of *Xanthonia* Baly 1863 (Coleoptera: Chrysomelidae: Eumolpinae) in North America east of the Mississippi River. *Proceedings of the Entomological Society of Washington* 103(1):157-183.
- STAINES, C. L. AND D. M. WEISMAN. 2001b. Two new species of *Xanthonia* (Coleoptera: Chrysomelidae: Eumolpinae) from the southwestern United States. *Journal of the New York Entomological Society* 109(3-4):354-359.
- STAUFFER, J. 1865. A new grape-vine enemy (*Myochrous villosulus* variety). *The Gardener's Monthly* 7(8):233-234.
- STEAR, J. R. 1918. Flea-beetles as pests of the garden. Spraying, dusting and clean cultivation keeps the insects out. Ohio Agricultural Experiment Station, *The Monthly Bulletin* 3(8):251-253.
- STEAR, J. R. 1920. Flea-beetle injury to apples. *Journal of Economic Entomology* 13 (5):433.
- STEARNS, L. A. 1933. Observations on the biology and control of *Metriorhiza bivittata* Say. *Journal of Economic Entomology* 26(1):151-154.
- STEENIS, J. H. AND R. T. MITCHELL. 1950. Leaf beetle versus lotus. *Journal of Wildlife Management* 14(4):478.
- STEIDL, R. P., J. A. WEBSTER, AND D. H. SMITH. 1979. Cereal leaf beetle plant resistance: antibiosis in an *Avena sterilis* introduction. *Environmental Entomology* 8(3):448-450.
- STEINER, H. M. AND P. J. CHAPMAN. 1937. Food plants of *Nodonota puncticollis* Say. *Journal of Economic Entomology* 30(6):971-972.
- STEINHAUSEN, W. R. 1996. Biological remarks on rearing and collecting of middle European leaf beetle larvae. Pages 93-105 in P. H. A. Jolivet and M. L. Cox (eds.). *Chrysomelidae Biology, Volume 3: General Studies*. SPB Academic Publishing, Amsterdam, The Netherlands.
- STELLJES, K. B. AND M. WOOD. 2000. Foreign agents imported for weed control. United States Department of Agriculture, Agricultural Research Service, *Agricultural Research* 48(3):4-9.
- STEPHENSON, *. 1962. A leaf beetle (*Syneta albida*). *Cooperative Economic Insect Report* 12(20):489.
- STEPHENSON, * AND * GOEDEN. 1964. A flea beetle (*Syneta albida*). *Cooperative Economic Insect Report* 14(20):469.
- STERN, V. M. AND J. A. JOHNSON. 1984a. New data on the grape bud beetle. Effective controls are available, but suppression may require two years. *California Agriculture*, May-June 1984:22-24.
- STERN, V. M. AND J. A. JOHNSON. 1984b. Biology and control of the grape bud beetle, *Glyptotscelis squamulata* (Coleoptera: Chrysomelidae), in southern California table grapes. *Journal of Economic Entomology* 77(5):1327-1334.
- STEVE, P. C. AND W. N. STONER. 1956. Summary of insect conditions – 1956, Rhode Island. *Cooperative Economic Insect Report* 6(49):1100-1103.
- STEWART, *. 1963. A leaf beetle (*Syneta albida*). *Cooperative Economic Insect Report* 13(21):551.
- STEWART, F. C. 1896. The cucumber flea-beetle as the cause of “pimply” potatoes. *New York Agricultural Experiment Station Bulletin (New Series)* 113:311-317.
- STEWART, M. A. 1930. The insect visitants and inhabitants of *Melilotus alba*. *Journal of the New York Entomological Society* 38(1):43-46.
- STEYSKAL, G. 1951. Insects feeding on plants of the *Toxicodendron*-section of the genus *Rhus* (poison oak, ivy, or

- sumac). The Coleopterists' Bulletin 5(5-6):75-77.
- STIEFEL, V. L. 1993. The larval habitat of *Pachybrachis pectoralis* (Melsheimer) and *Cryptocephalus fulguratus* LeConte (Coleoptera: Chrysomelidae). Journal of the Kansas Entomological Society 66(4):450-453.
- STIEFEL, V. L., J. R. NECHOLS, AND D. C. MARGOLIES. 1995. Overwintering biology of *Anomoea flavokansiensis* (Coleoptera: Chrysomelidae). Annals of the Entomological Society of America 88(3):342-347.
- STIEFEL, V. L., J. R. NECHOLS, AND D. C. MARGOLIES. 1997. Development and survival of *Anomoea flavokansiensis* (Coleoptera: Chrysomelidae) as affected by temperature. Environmental Entomology 26(2):223-228.
- STILES, C. F. 1952. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 2(28):371.
- STILES, C. F. 1959. A willow leaf beetle (*Chrysomela interrupta*). Cooperative Economic Insect Report 9(22):465.
- STILL, G. W. AND R. W. RINGS. 1973. Insect and mite pests of grapes in Ohio. Ohio Agricultural Research and Development Center, Research Bulletin 1060:1-30.
- STIRRETT, G. M. 1924. Flea-beetles, their Classification, Bionomics and Economy, with Special Reference to the Genus *Epitrix*. M. S. Thesis. Purdue University, West Lafayette, Indiana. 174 pages.
- STIRRETT, G. M. 1935. A contribution to the knowledge of sugar-beet insects in Ontario, a historical review and preliminary survey of the insects associated with sugar-beets. Scientific Agriculture 16(4):180-196.
- STONE, J. D. AND J. N. FRIES. 1986. Insect fauna of cultivated guayule, *Parthenium argentatum* Gray (Campanulatae: Compositae). Journal of the Kansas Entomological Society 59(1):49-58.
- STONER, * AND *ORLOB. 1962. Flea beetles. Cooperative Economic Insect Report 12(25):659.
- STONER, W. N. 1957a. Potato flea beetle (*Epitrix cucumeris*). Cooperative Economic Insect Report 7(22):422.
- STONER, W. N. 1957b. Flea beetles. Cooperative Economic Insect Report 7(23):441.
- STONER, W. N. 1957c. Three-lined potato beetle (*Lema trilineata*). Cooperative Economic Insect Report 7(40):794.
- STORCH, R. H., F. E. MANZER, G. H. SEWELL, AND O. P. SMITH. 1979. Adult red-headed flea beetle found feeding on potato in Maine (Coleoptera: Chrysomelidae). American Potato Journal 56(7):363-364.
- STORY, J. M., H. DESMET-MOENS, AND W. L. MORRILL. 1985. Phytophagous insects associated with Canada thistle, *Cirsium arvense* (L.) Scop., in southern Montana. Journal of the Kansas Entomological Society 58(3):472-478.
- STRANAHAN, *. 1959. Alder flea beetle (*Altica ambiens*). Cooperative Economic Insect Report 9(17):314.
- STRANAHAN, *. 1968. Flea beetles (*Altica* spp.). Cooperative Economic Insect Report 18(23):500.
- STRAUSS, S. Y. 1988. The Chrysomelidae: a useful group for investigating herbivore-herbivore interactions. Pages 91-105 in P. Jolivet, E. Petitpierre, and T. H. Hsiao (eds.). Biology of Chrysomelidae. Kluwer Academic Publishers, The Netherlands.
- STRICKLAND, E. H. 1920. The cottonwood leaf-mining beetles in southern Alberta. The Canadian Entomologist 52(1):1-5.
- STROTHER, M. S. 1993. A Taxonomic Revision of the New World Genus *Fidia* Baly 1863 (Coleoptera: Chrysomelidae: Eumolpinae). M. S. Thesis, Louisiana State University, Shreveport, Louisiana. 248 pages.
- SULLIVAN, M. J. AND C. H. BRETT. 1971. Resistance of cucurbit varieties to the spotted cucumber beetle in the coastal plain of North Carolina. Journal of Economic Entomology 64(5):1205-1208.
- SUMRALL, *. 1958. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 8(7):105.
- SUNDMAN, J. A. 1965. Checklist and description of a new species of the genus *Cryptocephalus* in Texas (Coleoptera: Chrysomelidae). The Southwestern Naturalist 10(1):1-8.
- SUTHERLAND, D. W. S. 1968. A tortoise beetle (*Plagiometriona clavata*). Cooperative Economic Insect Report 18(27):613.
- SWAIN, R. B. 1948. The Insect Guide. Orders and Major Families of North American Insects. Doubleday & Company, Inc., Garden City, New York. 261 pages.
- SWAINE, J. M. 1913. Notes on some forest insects in 1912. Annual Report of the Entomological Society of Ontario 43:87-91.
- SWAN, L. A. AND C. S. PAPP. 1972. The Common Insects of North America. Harper & Row, New York. 750 pages.
- SWEET, H. E. 1930. An ecological study of the animal life associated with *Artemisia californica* Less, at Claremont, California. Journal of Entomology and Zoology 22:57-70, 75-103, 121-151.
- SWEETMAN, H. L. 1925. The life history of *Diabrotica vittata* Fabr. in Iowa (Chrysomelidae, Coleoptera). Journal of Economic Entomology 18(6):795-807.
- SWEETMAN, H. L. 1926. Results of life history studies of *Diabrotica 12-punctata* Fabr. (Chrysomelidae, Coleoptera). Journal of Economic Entomology 19:484-490.
- SWEETMAN, H. L. 1928. Notes on insects inhabiting the roots of weeds. Annals of the Entomological Society of America 21:594-600.
- SWENK, M. H. AND H. D. TATE. 1940. The potato flea beetle and the potato psyllid in Nebraska. University of Nebraska, Agricultural Experiment Station, Bulletin 327:1-19.
- SWEZEY, O. H. 1915. Notes on the oviposition of *Diachus auratus* (Chrysomelidae). Proceedings of the Hawaiian Entomological Society 3:62-63.
- SWIGONOVA, Z. AND C. DUCKETT. 1998. The 1998 mid-Atlantic states field trip. Chrysomela Newsletter 36:7.

Literature Cited

- SWIGONOVA, Z. AND K. M. KJER. 2001. Will molecular phylogenetics elucidate host-plant shifts in *Trirhabda* LeConte (Chrysomelidae, Galerucinae)? Chrysomela Newsletter 40/41:3, 8.
- SWINIARSKI, E., E. WERNER, AND Z. MIERZWA. 1958. Pewne zagadnienia biochemicznej odpornosci dzikich gatunków ziemniaka na larwy stonki ziemniaczanej (*Leptinotarsa decemlineata* Say). Hodowla Roslin Aklimatyzacja i Nasiennictwo 2(5):623-631.
- SYMONS, T. B. AND E. N. CORY. 1913. Miscellaneous insect pests. Maryland Agricultural Experiment Station Bulletin 175:171-180.
- SYRETT, P. 1985. Host specificity of the ragwort flea beetle *Longitarsus jacobaeae* (Waterhouse) (Coleoptera: Chrysomelidae). New Zealand Journal of Zoology 12:335-340.
- SZENTESI, A. AND T. JERMY. 1993. A comparison of food-related behaviour between geographic populations of the Colorado potato beetle (Coleoptera, Chrysomelidae), on six solanaceous plant species. Entomologia Experimentalis et Applicata 66(3):283-293.
- TACHÉ, J. 1877. La mouche ou la chrysomèle des patates (*Chrysomela decemlineata*) et le moyen d'en combattre les ravages. La Compagnie de Lithographie Burland-Desbarats, Montreal, Canada. 38 pages.
- TAHVANAINEN, J. O. 1972. Phenology and microhabitat selection of some flea beetles (Coleoptera: Chrysomelidae) on wild and cultivated crucifers in central New York. Entomologica Scandinavica 3:120-138.
- TAHVANAINEN, J. O. 1983. The relationship between flea beetles and their cruciferous host plants: the role of plant and habitat characteristics. Oikos 40:433-437.
- TAHVANAINEN, J. O. AND R. B. ROOT. 1970. The invasion and population outbreak of *Psyllioides* [sic] *napi* (Coleoptera: Chrysomelidae) on yellow rocket (*Barbarea vulgaris*) in New York. Annals of the Entomological Society of America 63(5):1479-1480.
- TAHVANAINEN, J. O. AND R. B. ROOT. 1972. The influence of vegetational diversity on the population ecology of a specialized herbivore, *Phyllotreta cruciferae* (Coleoptera: Chrysomelidae). Oecologia 10:321-346.
- TAKIZAWA, H. 1989. Notes on larvae of the subfamily Chrysomelinae (Coleoptera, Chrysomelidae), part 1. Kanagawa-Chūhō, Yokohama 90:243-256.
- TAKIZAWA, H. 2003. Check list of Chrysomelidae in West Indies (Coleoptera). Hispaniolana (Nueva Serie) 2:1-125.
- TANNER, V. M. 1928. The Coleoptera of Zion National Park, Utah. Annals of the Entomological Society of America 21:269-281.
- TANNER, V. M. 1958. Life history notes on *Calligrapha multipunctata multipunctata* (Say) (Coleoptera, Chrysomelidae). The Great Basin Naturalist 18(3-4):101-103.
- TANNER, V. M. AND G. L. NIELSEN. 1954. *Gastroidea cyanea* Melsh. (Coleoptera) preyed upon by an hemipteran predator. The Great Basin Naturalist 14(1-2):27-29.
- TANNER, V. M. AND W. W. TANNER. 1974. Additional records of Coleoptera collected at the Nevada test site. The Great Basin Naturalist 34(3):218-220.
- TARPLEY, W. A. AND * PIENKOWSKI. 1964. A leaf beetle (*Crepidodera erythropus*). Cooperative Economic Insect Report 14(21):516.
- TASHIRO, H. 1987. Turfgrass Insects of the United States and Canada. Comstock Publishing Associates, Ithaca, New York. 391 pages.
- TATE, E. G. 1979. Southern corn rootworm (*Diabrotica undecimpunctata howardi*). Cooperative Plant Pest Report 4(7):72.
- TATE, H. D. AND O. S. BARE. 1946. Corn rootworms. Nebraska Agricultural Experiment Station Bulletin 381:1-12.
- TAUBER, M. J., C. A. TAUBER, AND J. R. NECHOLS. 1996. Life history of *Galerucella nymphaeae* and implications of reproductive diapause for rearing univoltine chrysomelids. Physiological Entomology 21:317-324.
- TAYLOR, G. P. AND G. F. KNOWLTON. 1952. Forest and shade tree Coleoptera. Utah Agricultural Experiment Station, Mimeograph Series 389:20-32.
- TAYLOR, R. L. 1928. The arthropod fauna of coniferous leaders weeviled by *Pissodes strobi* (Peck). Psyche 35(4):217-225.
- TAYLOR, T. H. 1918. Observations on the habits of the turnip flea-beetle. The Entomologist 51:83-86.
- TELFORD, A. D. 1957. Arizona cotton insects. Arizona Agricultural Experiment Station Bulletin 286:1-60.
- TEMPÈRE, G. 1927 (1926). Régime alimentaire anormal de *Crioceris lili* Scop. (Col. Chrysomelidae). Procès-verbaux de la Société Linnéenne de Bordeaux 78(2):131-133.
- TENG, H., V. WADDILL, F. SLANSKY, AND J. STRAYER. 1984. Performance and host preference of adult banded cucumber beetles, *Diabrotica balteata* when offered several crops. Journal of Agricultural Entomology 1(4):330-338.
- TETRAULT, R. C. 1980. Asparagus beetle. Pennsylvania State University, Entomology-Hort Series 6 (File No. IV-J, 6-b, 3-80):1-2.
- TETRAULT, R. C. 1982. The pest sheet, the asparagus beetle. Pennsylvania State University, Entomology-Hort Series 82-6:1-2.
- THOMAS, C. 1881. New corn insect – *Diabrotica longicornis*, Say. Report of the State Entomologist on the Noxious and Beneficial Insects of the State of Illinois 10:44-46.
- THOMAS, C. A. 1943. Belladonna insects in Pennsylvania. Journal of Economic Entomology 36(4):630-632.
- THOMAS, D. 1834. Some account of the *Chrysomela vitivora*. The American Journal of Science and Arts 26:113-114.
- THOMAS, D. B. AND F. G. WERNER. 1981. Grass feeding insects of the western ranges: an annotated checklist. The University of Arizona, Agricultural Experiment Station, Technical Bulletin 243:1-50.

- THOMAS, M. C. 1994. *Chelymorpha cribraria* (Fabricius), a Neotropical tortoise beetle new to Florida (Coleoptera: Chrysomelidae). Florida Department of Agriculture and Consumer Services, Division of Plant Industry, Entomology Circular 363:1-2.
- THOMAS, M. C. 1995. The larger elm leaf beetle, *Monocesta coryli* (Say), an occasional pest of elms in Florida (Coleoptera: Chrysomelidae). Florida Department of Agriculture and Consumer Services, Division of Plant Industry, Entomology Circular 370:1-2.
- THOMAS, M. C., E. G. RILEY, AND S. M. CLARK. 2001 (1999). Two leaf beetles new to Florida (Coleoptera: Chrysomelidae). *Insecta Mundi* 13(3-4):212.
- THOMAS, W. A. 1927. Injury to sweet potato by *Systema taeniata* var. *blanda* larva. *Journal of Economic Entomology* 20(1):236-237.
- THOMPSON, H. E. 1959. A leaf beetle (*Anomoea laticlavata*). *Cooperative Economic Insect Report* 9(30):884.
- THOMPSON, H. E. 1962. A leaf beetle (*Anomoea laticlavata*). *Cooperative Economic Insect Report* 12(29):805.
- THOMPSON, H. E. 1966. A leaf beetle (*Lema simulans*). *Cooperative Economic Insect Report* 16(38):924.
- THOMPSON, H. E., L. A. CALKINS, AND L. L. PETERS. 1960. A chrysomelid (*Anomoea laticlavata*). *Cooperative Economic Insect Report* 10(32):742.
- THOMPSON, L. C. AND J. D. SOLOMON. 1986. The insect defoliator fauna of young sycamore plantations in the Mississippi Delta and its seasonal population development in 1981. *Arkansas Agricultural Experiment Station Bulletin* 897:1-24.
- THURSTON, G. S. 1998. Biological control of elm leaf beetle. *Journal of Arboriculture* 24(3):154-159.
- TILDEN, J. W. 1949. Oviposition of *Cryptocephalus confluent* Say (Coleoptera, Chrysomelidae). *Entomological News* 60:151-154.
- TILDEN, J. W. 1951. The insect associates of *Baccharis pilularis* De Candolle. *Microentomology* 16(1):149-185.
- TILDEN, J. W. 1953. Biological notes on *Trirhabda flavolimbata* (Chrysomelidae). *The Coleopterists' Bulletin* 7(3):20-23.
- TIMMERMANS, M., T. RANDOUX, D. DALOZE, J. BRAEKMAN, J. M. PASTEELS, AND L. LESAGE. 1992. The chemical defence of Doryphorina beetles (Coleoptera: Chrysomelidae). *Biochemical Systematics and Ecology* 20(4):343-349.
- TIPPING, P. W. 1993. Field studies with *Cassida rubiginosa* (Coleoptera: Chrysomelidae) in Canada thistle. *Environmental Entomology* 22(6):1402-1407.
- TISLER, A. M. 1990. Feeding in the pigweed flea beetle, *Disonychia glabrata* Fab. (Coleoptera: Chrysomelidae), on *Amaranthus retroflexus*. *Virginia Journal of Science* 41(3):243-245.
- TOKUNAGA, M. AND S. KADOWAKI. 1949. Studies on the life history and bionomics of *Phyllotreta vittata* Fabricius (Col. Chrysomelidae), feeding habits of imaginal insects. *The Transactions of the Kansai Entomological Society* 14(2):59-69.
- TOKUNAGA, M. AND S. KADOWAKI. 1950. Studies on the life history and bionomics of *Phyllotreta vittata* Fabricius, feeding habits of imaginal insects. *The Transactions of the Kansai Entomological Society* 15(1):63-72; 15(2):61-68.
- TOMLIN, J. R. L. AND W. E. SHARP. 1912. Notes on the British species of *Longitarsus*, Latr. (a genus of Coleoptera). *The Entomologist's Monthly Magazine* (Second Series) 48:2-7, 72-76, 119-124, 200-204, 245-253, 278-286.
- TOWER, W. L. 1906. An investigation of evolution in chrysomelid beetles of the genus *Leptinotarsa*. *Carnegie Institution of Washington, Publication* 48:1-320.
- TOWER, W. L. 1918. The mechanism of evolution in *Leptinotarsa*. *Carnegie Institution of Washington, Publication* 263:1-384.
- TOWNSEND, C. H. T. 1892. Biologic notes on New Mexico insects. *Insect Life* 5(1):37-40.
- TOWNSEND, C. H. T. 1895. On the Coleoptera of New Mexico and Arizona, including biologic and other notes. *The Canadian Entomologist* 27:39-51.
- TOWNSEND, C. H. T. 1902. Contribution to a knowledge of the coleopterous fauna of the Lower Rio Grande Valley in Texas and Tamaulipas, with biological notes and special reference to geographical distribution. *Transactions of the Texas Academy of Science* 5:51-101.
- TRIPPEL, A. W. 1934. New records of Indiana Chrysomelidae. *Bulletin of the Brooklyn Entomological Society* 29(2):74-76.
- TROUVELOT, B. AND P. GRISON. 1935. Variations de fécondité du *Leptinotarsa decemlineata* Say avec les *Solanum* tubérifères consommés par l'insecte. *Comptes Rendus Hebdomadaires des Séances de l'Académie des Sciences*, Paris 201:1053-1055.
- TROUVELOT, B., H. LACOTTE, J. DUSSY, AND J. THÉNARD. 1933. Observations sur les affinités trophiques existant entre les larves de *Leptinotarsa decemlineata* et les plantes de la famille des Solanées. *Comptes Rendus Hebdomadaires des Séances de l'Académie des Sciences*, Paris 197:273-275.
- TROXCLAIR, N. N. AND D. J. BOETHEL. 1984. Influence of tillage practices and row spacing on soybean insect populations in Louisiana. *Journal of Economic Entomology* 77(6):1571-1579.
- TUCKER, E. S. 1910. Incidental captures of Coleoptera at Plano, Texas. *The Canadian Entomologist* 42:229-237.
- TUGWELL, P., E. P. ROUSE, AND R. G. THOMPSON. 1973. Insects in soybeans and a weed host (*Desmodium* sp.). *Arkansas Agricultural Experiment Station, Report Series* 214:1-18.

Literature Cited

- TURNER, N. 1940. Biology and control of the potato flea beetle. Connecticut Agricultural Experiment Station Bulletin 434:277-283.
- TURNER, W. F. 1911. Bud-worms in corn (*Diabrotica 12-punctata* Oliv.). Alabama Agricultural Experiment Station Circular 8:1-7.
- TURNIPSEED, S. G. AND M. KOGAN. 1976. Soybean entomology. Annual Review of Entomology 21:247-282.
- TURNOCK, W. J., G. H. GERBER, M. BICKIS, AND R. B. BENNETT. 1979. The applicability of X-ray energy-dispersive spectroscopy to the identification of populations of red turnip beetle, *Entomoscelis americana* (Coleoptera: Chrysomelidae). The Canadian Entomologist 111(2):113-125.
- TURNOCK, W. J., R. J. LAMB, AND R. J. BILODEAU. 1987. Abundance, winter survival, and spring emergence of flea beetles (Coleoptera: Chrysomelidae) in a Manitoba grove. The Canadian Entomologist 119:419-426.
- TURPIN, F. T. 1975. A flea beetle (*Systema frontalis*). Cooperative Economic Insect Report 25(29):592-593.
- TYNES, *. 1964a. Banded cucumber beetle (*Diabrotica balteata*). Cooperative Economic Insect Report 14(31):869.
- TYNES, *. 1964b. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 14(31):875.
- TYNES, *. 1964c. Banded cucumber beetle (*Diabrotica balteata*). Cooperative Economic Insect Report 14(31):875.
- TYNES, *. 1964d. Pale-striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 14(31):875.
- TYNES, *. 1964e. Banded cucumber beetle (*Diabrotica balteata*). Cooperative Economic Insect Report 14(32):911.
- TYNES, *. 1964f. Pale striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 14(34):972.
- TYNES, *. 1964g. Banded cucumber beetle (*Diabrotica balteata*). Cooperative Economic Insect Report 14(34):972.
- TYNES, *. 1964h. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 14(34):972.
- TYNES, *. 1964i. Banded cucumber beetle (*Diabrotica balteata*). Cooperative Economic Insect Report 14(38):1068.
- TYNES, * AND * BAGENT. 1964. Banded cucumber beetle (*Diabrotica balteata*). Cooperative Economic Insect Report 14(36):1023.
- UDINE, E. J. 1960. A flea beetle (*Altica viridana*). Cooperative Economic Insect Report 10(23):471.
- UDINE, E. J. 1963. Red-legged flea beetle (*Derocrepis erythropus*). Cooperative Economic Insect Report 13(21):549.
- UDINE, E. J. 1964. Northern corn rootworm (*Diabrotica longicornis*). Cooperative Economic Insect Report 14(40):1115.
- UHMANN, E. 1953. Amerikanische "Hispinæ" IV. 139. Beitrag zur Kenntnis der Hispinæ (Coleopt. Chrysom). Memorias de la Sociedad Cubana de Historia Natural 21(2):161-172.
- ULKE, H. 1903. A list of the beetles of the District of Columbia. Proceedings of the United States National Museum 25:1-57.
- UNDERHILL, G. W. 1928. Life history and control of the pale-striped and banded flea beetles. Virginia Agricultural Experiment Station Bulletin 264:1-20.
- URBAHNS, T. D. 1921. The strawberry rootworm (*Paria canella*). California Department of Agriculture, The Monthly Bulletin 10:311-313.
- URIARTE, M. 2000. Interactions between goldenrod (*Solidago altissima* L.) and its insect herbivore (*Trirhabda virgata*) over the course of succession. Oecologia 122:521-528.
- VAIL, P. V., J. R. COULSON, W. C. KAUFFMAN, AND M. E. DIX. 2001. History of biological control programs in the United States Department of Agriculture. American Entomologist 47(1):24-50.
- VALENTI, M. A., G. T. FERRELL, AND A. A. BERRYMAN. 1997. Insects and related arthropods associated with greenleaf manzanita in montane chaparral communities of northeastern California. United States Department of Agriculture, Forest Service, Pacific Southwest Research Station, General Technical Report PSW-GTR-167:1-26.
- VALLEY, K. 1985. *Altica ignita* Illiger, a potential pest of cultivated rhododendrons. Regulatory Horticulture 11(1):13-14.
- VANCLEAVE, H. W., * PELA, AND * GOIN. 1959. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 9(16):282.
- VANCLEAVE, H. W. AND * VINSON. 1959. Leaf beetles (*Chrysomela* spp.). Cooperative Economic Insect Report 9(28):632.
- VANDERFORD, *. 1963. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 13(48):1364.
- VANDERFORD, *. 1965. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). Cooperative Economic Insect Report 15(24):608.
- VAN DE WATER, I. 1955. Insects pests and diseases of iris and daylily, how to recognize them and what to do about them. Plants & Gardens 11(1):57-62.
- VAN DYKE, E. C. 1918. A second food plant for the cherry leaf-beetle. Journal of Economic Entomology 11(5):431.
- VAN DYKE, E. C. 1919. A correction. Journal of Economic Entomology 12(2):219.
- VAN DYKE, E. C. 1925a. Notes and descriptions of new species of west American Hispinæ (Coleoptera-Chrysomelidae). The Pan-Pacific Entomologist 1(4):170-173.
- VAN DYKE, E. C. 1925b. The alder flea beetle. The Pan-Pacific Entomologist 2(1):46.
- VAN DYKE, E. C. 1938a. A review of the genus *Chrysolina* Motschulsky in North America (Coleoptera-Chrysomelidae). Bulletin of the Brooklyn Entomological Society 33(2):45-58.

- VAN DYKE, E. C. 1938b. New species of Pacific Coast Coleoptera (Cleridae, Pyrochroidae, Chrysomelidae). *Entomological News* 49:189-195.
- VAN HORN, M. C. 1935. *Haltica ignita* – feeding on fuchsia in the greenhouse. *Journal of Economic Entomology* 28:98.
- VAN PELT, A. F. 1990. Insects of Big Bend National Park, Texas. Big Bend Natural History Association, Big Bend National Park, Texas.
- VASCONCELLOS-NETO, J. 1988. Genetics of *Chelymorpha cribraria*, Cassidinae: colour patterns and their ecological meanings. Pages 217-232 in P. Jolivet, E. Petitpierre, and T. H. Hsiao (eds.). *Biology of Chrysomelidae*. Kluwer Academic Publishers, The Netherlands.
- VASCONCELLOS-NETO, J. AND P. JOLIVET. 1994. Cycloalexy among chrysomelid larvae. Pages 303-309 in P. H. Jolivet, M. L. Cox, and E. Petitpierre (eds.). *Novel Aspects of the Biology of Chrysomelidae*. Kluwer Academic Publishers, The Netherlands.
- VAUGHN, T. T. AND C. W. HOY. 1993. Effects of leaf age, injury, morphology, and cultivars on feeding behavior of *Phyllotreta cruciferae* (Coleoptera: Chrysomelidae). *Environmental Entomology* 22(2):418-424.
- VENCL, F. V. AND T. C. MORTON. 1998a. Did chemical change in shield defenses promote diversification of shining leaf beetles (Chrysomelidae: Criocerinae). Pages 205-218 in M. Biondi, M. Daccordi, and D. G. Furth (eds.). *Proceedings of the Fourth International Symposium of the Chrysomelidae, Proceedings of a Symposium (30 August, 1996, Florence, Italy) XX International Congress of Entomology*. Museo Regionale di Scienze Naturali, Torino, Italy.
- VENCL, F. V. AND T. C. MORTON. 1998b. The shield defense of the sumac beetle, *Blepharida rhois* (Chrysomelidae: Alticinae). *Chemoecology* 8:25-32.
- VENCL, F. V. AND T. C. MORTON. 1999. Macroevolutionary aspects of larval shield defences. Pages 217-238 in M. L. Cox (ed.). *Advances in Chrysomelidae Biology 1*. Backhuys Publishers, Leiden, The Netherlands.
- VENCL, F. V., T. C. MORTON, R. O. MUMMA, AND J. C. SCHULTZ. 1999. Shield defense of a larval tortoise beetle. *Journal of Chemical Ecology* 25(3):549-566.
- VENTURI, F. 1942. *La Lema melanopa* L. (Coleoptera, Chrysomelidae). *Redia* 28:11-88.
- VERDYCK, P. 1998. Genetic diversity and host plant use in the phytophagous Chrysomelidae: an evaluation of the niche width variation hypothesis. Pages 219-232 in M. Biondi, M. Daccordi, and D. G. Furth (eds.). *Proceedings of the Fourth International Symposium of the Chrysomelidae, Proceedings of a Symposium (30 August, 1996, Florence, Italy) XX International Congress of Entomology*. Museo Regionale di Scienze Naturali, Torino, Italy.
- VERDYCK, P. 1999. Biochemical systematics of the *Phyllotreta cruciferae* complex (Coleoptera: Chrysomelidae: Alticinae). *Annals of the Entomological Society of America* 92(1):30-39.
- VERDYCK, P. AND L. DE BRUYN. 1991. Notes on some Alticinae of a dune wood vegetation (with a description of the male and female genitalia of two *Aphthona* species) (Coleoptera: Chrysomelidae). *Phegea* 19(1):29-33.
- VERNON, R. S., J. R. MACKENZIE, AND D. L. BARTEL. 1990. Monitoring tuber flea beetle, *Epitrix tuberis* Gentner (Coleoptera: Chrysomelidae) on potato: parameters affecting the accuracy of visual sampling. *The Canadian Entomologist* 122:525-535.
- VERTREES, *. 1965. Western spotted cucumber beetle (*Diabrotica undecimpunctata undecimpunctata*). *Cooperative Economic Insect Report* 15(31):875.
- VERTREES, *. 1966. A leaf beetle (*Chrysochus cobaltinus*). *Cooperative Economic Insect Report* 16(28):666.
- VERTREES, * AND F. P. LARSON. 1966. Western spotted cucumber beetle (*Diabrotica undecimpunctata undecimpunctata*). *Cooperative Economic Insect Report* 16(32):782.
- VESTAL, A. G. 1913. An associational study of Illinois sand prairie. *Bulletin of the Illinois State Laboratory of Natural History* 10(1):1-96.
- VIG, K. 1991a. The effect of the photoperiod on the life cycle of *Phyllotreta* flea beetles (Coleoptera: Chrysomelidae). *Elytron, Supplement* 5(1):269-274.
- VIG, K. 1991b. Morphological description of immature stages of horse radish flea beetle, *Phyllotreta armoraciae* Koch (Coleoptera, Chrysomelidae). *Georgieon for Agriculture* 3(1):51-62.
- VIG, K. 1992a. Gyakoribb *Phyllotreta*-fajok kapcsolata a tápnövényekhez (Coleoptera, Chrysomelidae, Alticinae). *Savaria* 20(2):281-294.
- VIG, K. 1992b. Contribution to the knowledge of Chrysomelidae fauna of Bulgaria (Coleoptera: Chrysomelidae). *Savaria* 20(2):295-308.
- VIG, K. 1996. A Nyugat-magyarországi-peremvidék levélbogár faunájának alapvetése (Coleoptera: Chrysomelidae *sensu lato*). *Praeniorica, Folia historico-naturalia* 3:1-178.
- VIG, K. 1997. Leaf beetle collection of the Mátra Museum, Gyöngyös, Hungary (Coleoptera, Chrysomelidae *sensu lato*). *Folia Historico Naturalia Musei Matraensis* 22:175-201.
- VIG, K. AND I. ROZNER. 1996. Leaf beetle fauna of Örség (Coleoptera: Chrysomelidae *sensu lato*). *Savaria* 23(2):163-202.
- VINCENT, C. AND R. K. STEWART. 1981. Altises (Coleoptera: Chrysomelidae) associées aux crucifères cultivées dans le Sud-Ouest du Québec. *Annales de la Société Entomologique du Québec* 26(2):112-118.
- VINOGRADOVA, E. B. 1988. Peculiarities of the reproduction and pattern of the imaginal diapause in the leaf-beetle *Zygogramma suturalis* F. (Coleoptera, Chrysomelidae) in Stavropol Province. *Revue d'Entomologie de l'URSS* 67(3):468-479.

Literature Cited

- VIRKKI, N. 1972. Contraction stage and formation of the distance sex bivalent in *Oedionychina* (Coleoptera, Alticinae). *Hereditas* 71:259-288.
- VIRKKI, N. 1973. Spermatogonial budding in flea beetles. *Caryologia* 26(3):405-423.
- VIRKKI, N. 1979. Ovariole numbers in two Puerto Rican *Oedionychina* (Coleoptera). *Journal of Agriculture of the University of Puerto Rico* 63:50-56.
- VIRKKI, N. 1980. Flea beetles, especially *Oedionychina*, of a Puerto Rican marshland in 1969-72. *Journal of Agriculture of the University of Puerto Rico* 64(1):63-92.
- VIRKKI, N. 1982. On the biology of *Oedionychina* (Chrysomelidae, Alticinae). *Tribolium Information Bulletin* 22:172-173.
- VIRKKI, N. AND J. A. SANTIAGO-BLAY. 1995 (1994). Chromosomes of some neotropical flea beetles (Coleoptera: Chrysomelidae: Alticinae) with inherently univalent, amphiorientating sex chromosomes and meioformula $11+X+y$ in the male meiosis. *Cytobios* 80:79-99.
- VIRKKI, N. AND J. A. SANTIAGO-BLAY. 1996. Chromosomes of some Puerto Rican flea beetles (Coleoptera: Chrysomelidae: Alticinae): multiple cytogenetic evolutionary tendencies in the neotropics. *Journal of Zoological Systematics and Evolutionary Research* 34:113-119.
- VIRKKI, N. AND J. A. SANTIAGO-BLAY. 1997. Chromosomes of some Puerto Rican leaf beetles (Coleoptera, Chrysomelidae): biogeographical and evolutionary considerations. *Cytobios* 90:103-131.
- VIRKKI, N. AND J. A. SANTIAGO-BLAY. 1998. Chromosome numbers in 71 Puerto Rican species of leaf beetles (Coleoptera: Chrysomelidae). *Journal of Agriculture of the University of Puerto Rico* 82(1-2):69-83.
- VIRKKI, N., J. A. SANTIAGO-BLAY, AND S. M. CLARK. 1992 (1991). Chromosomes of some Puerto Rican *Disonychina* and *Oedionychina* (Coleoptera: Chrysomelidae: Alticinae: Oedionychini): Evolutionary implications. *Psyche* 98(4):373-390.
- VIRKKI, N., J. A. SANTIAGO-BLAY, AND E. G. RILEY. 1992. Chromosomes of Puerto Rican Hispinae and Cassidinae (Coleoptera: Chrysomelidae). *The Coleopterists Bulletin* 46(1):29-42.
- VIRKKI, N. AND I. ZAMBRANA. 1983. Life history of *Alagoasa bicolor* (L.) in indoor rearing conditions (Coleoptera Chrysomelidae Alticinae). *Entomologischen Arbeiten aus dem Museum G. Frey* 31/32:131-155.
- VOGT, G. B. AND H. A. CORDO. 1976. Recent South American field studies of prospective biocontrol agents of weeds. United States Army Engineer Waterways Experiment Station, Miscellaneous Paper A-76-1:36-55.
- VOGT, G. B., J. U. MCGUIRE, AND A. D. CUSHMAN. 1979. Probable evolution and morphological variation in South American disonychine flea beetles (Coleoptera: Chrysomelidae) and their amaranthaceous hosts. United States Department of Agriculture, Technical Bulletin 1593:1-148.
- WADE, M. J. 1994. The biology of the imported willow leaf beetle, *Plagioderma versicolora* (Laicharting). Pages 541-547 in P. H. Jolivet, M. L. Cox, and E. Petitpierre (eds.). *Novel Aspects of the Biology of Chrysomelidae*. Kluwer Academic Publishers, The Netherlands.
- WADE, M. J. AND F. BREDE. 1986. Life history of natural populations of the imported willow leaf beetle, *Plagioderma versicolora* (Coleoptera: Chrysomelidae). *Annals of the Entomological Society of America* 79(1):73-79.
- WADLEIGH, R. W. 1980. Cereal leaf beetle (*Oulema melanopus*). *Cooperative Plant Pest Report* 5(12):238.
- WALDBAUER, G. P. AND M. KOGAN. 1976a. Bean leaf beetle: phenological relationship with soybean in Illinois. *Environmental Entomology* 5(1):35-44.
- WALDBAUER, G. P. AND M. KOGAN. 1976b. Bean leaf beetles: bionomics and economic role in soybean agroecosystems. *World Soybean Research*, September 1977, pages 619-628.
- WALKER, F. H. 1936. Observations on sunflower insects in Kansas. *Journal of the Kansas Entomological Society* 9(1):16-25.
- WALKER, G. P. 1979a. Striped cucumber beetle (*Acalymma vittata*). *Cooperative Plant Pest Report* 4(15):230.
- WALKER, G. P. 1979b. Locust leafminer (*Odontota dorsalis*). *Cooperative Plant Pest Report* 4(18):310.
- WALKER, J. 1962. A leaf beetle (*Anomoea laticlavata*). *Cooperative Economic Insect Report* 12(26):704.
- WALKER, J. AND W. F. LYON. 1963. Locust leaf miner (*Xenochalepus dorsalis*). *Cooperative Economic Insect Report* 13(21):559.
- WALKER, R. L. 1961. Economic status of cotton insect pests in fourteen cotton-producing states. *Cooperative Economic Insect Report* 11(25):549-555.
- WALLACE, *, * BOSWELL, AND * SEIBELS. 1965. Spotted cucumber beetle (*Diabrotica undecimpunctata howardi*). *Cooperative Economic Insect Report* 15(7):84.
- WALLACE, J. B. 1970. The defensive function of a case on a chrysomelid larva. *Journal of the Georgia Entomological Society* 5(1):19-24.
- WALLACE, J. B. AND M. S. BLUM. 1969. Refined defensive mechanisms in *Chrysomela scripta*. *Annals of the Entomological Society of America* 62(3):503-506.
- WALLACE, J. B. AND J. O'HOP. 1985. Life on a fast pad: waterlily leaf beetle impact on water lilies. *Ecology* 66(5):1534-1544.
- WALLIS, R. L. 1952a. Flea beetles. *Cooperative Economic Insect Report* 2(6):78.
- WALLIS, R. L. 1952b. Tuber flea beetle (*Epitrix tuberis*). *Cooperative Economic Insect Report* 2(7):92.
- WALLIS, R. L. 1953. Tuber flea beetle (*Epitrix tuberis*). *Cooperative Economic Insect Report* 3(23):415.
- WALLIS, R. L. 1955a. Flea beetles. *Cooperative Economic Insect Report* 5(20):436.

- WALLIS, R. L. 1955b. Tuber flea beetle (*Epitrix tuberis*). Cooperative Economic Insect Report 5(23):516.
- WALLIS, R. L. 1957. Seasonal abundance and host plants of the tuber flea beetle in the Rocky Mountain region. Journal of Economic Entomology 50(4):435-438.
- WALSH, B. D. 1864. On phytophagic varieties and phytophagic species. Proceedings of the Entomological Society of Philadelphia 3:403-430.
- WALSH, B. D. 1865. On phytophagic varieties and phytophagic species, with remarks on the unity of coloration in insects. Proceedings of the Entomological Society of Philadelphia 4:194-215.
- WALSH, B. D. 1866a. Answers to correspondents. The Practical Entomologist 1(10):99-100.
- WALSH, B. D. 1866b. [Untitled]. The Practical Entomologist 2:9.
- WALSH, B. D. 1866c. The old-fashioned potato bugs. The Practical Entomologist 2(3):25-27.
- WALSH, B. D. 1867a. The grape-vine colaspis (*Colaspis flavida* Say). The Practical Entomologist 2(6):68-69.
- WALSH, B. D. 1867b. The grape-vine fidia (*Fidia viticida*, new species). The Practical Entomologist 2(8):87-88.
- WALSH, B. D. 1867c. Answers to correspondence. The Practical Entomologist 2(11-12):118.
- WALSH, B. D. AND C. V. RILEY. 1868a. Potato bugs. The American Entomologist 1:21-27, 41-49.
- WALSH, B. D. AND C. V. RILEY. 1868b. Leaf-miners of the locust. The American Entomologist 1(3):58.
- WALSH, B. D. AND C. V. RILEY. 1868c. Potato bug. The American Entomologist 1:250.
- WALSH, B. D. AND C. V. RILEY. 1869a. The asparagus beetle (*Crioceris asparagi*, Linn.). The American Entomologist 1(6):114-115.
- WALSH, B. D. AND C. V. RILEY. 1869b. The wavy-striped flea-beetle (*Haltica (Phyllotreta) striolata*, Illiger). The American Entomologist 1(6):114-115.
- WALSH, B. D. AND C. V. RILEY. 1869c. Sweet-potato beetles. The American Entomologist 1(11):227.
- WALSH, B. D. AND C. V. RILEY. 1869d. Twelve-spotted *Diabrotica*. The American Entomologist 1(11):227.
- WALSH, B. D. AND C. V. RILEY. 1869e. Insects infesting the sweet-potato. The American Entomologist 1(12):234-238.
- WALSH, B. D. AND C. V. RILEY. 1869f. Tortoise beetles. The American Entomologist 2(1):2-5.
- WALTERS, H. J. 1964. Transmission of bean pod mottle virus by bean leaf beetles. Phytopathology 54:240.
- WALTERS, H. J. AND F. N. LEE. 1969. Transmission of bean pod mottle virus from *Desmodium paniculatum* to soybean by the bean leaf beetle. United States Department of Agriculture, Agricultural Research Service, Crops Research Division, The Plant Disease Reporter 53(6):411.
- WAN, F. AND R. WANG. 1989. Biology of *Zygogramma suturalis* (F.) (Col.: Chrysomelidae), an introduced biological control agent of common ragweed, *Ambrosia artemisiifolia*. Chinese Journal of Biological Control 5(2):71-75.
- WAN, F. AND R. WANG. 1990a. A cage study on the control effects of *Ambrosia artemisiifolia* by the introduced biological control agent, *Zygogramma suturalis* (Col.: Chrysomelidae). Chinese Journal of Biological Control 6(1):8-12.
- WAN, F. AND R. WANG. 1990b. An experimental population life table of *Zygogramma suturalis* (Col.: Chrysomelidae), a potential biological control agent of *Ambrosia artemisiifolia*. Chinese Journal of Biological Control 6(2):64-67.
- WAN, F., R. WANG, AND S. QIU. 1989. Host specificity tests of *Zygogramma suturalis* (Col.: Chrysomelidae): an important biological control agent of *Ambrosia artemisiifolia* L. Chinese Journal of Biological Control 5(1):20-23.
- WAPSHERE, A. J. 1988. Prospects for the biological control of silver-leaf nightshade, *Solanum elaeagnifolium*, in Australia. Australian Journal of Agricultural Research 39:187-197.
- WARD, C. R., C. W. O'BRIEN, L. B. O'BRIEN, D. E. FORSTER, AND E. W. HUDDLESTON. 1977. Annotated checklist of New World insects associated with *Prosopis* (mesquite). United States Department of Agriculture, Agricultural Research Service, Technical Bulletin 1557:1-115.
- WARD, D. R. 1982. The Systematics, Distribution, and Biology of the Nearctic Species of *Tricholochmaea* Laboissière (Chrysomelidae: Galerucinae). M. S. Thesis. Carleton University, Ottawa, Ontario. 170 pages.
- WARD, R. H. AND R. L. PIENKOWSKI. 1975. *Cassida rubiginosa* Müller (Coleoptera: Chrysomelidae), a potential bio-control agent of thistles in Virginia. Journal of the New York Entomological Society 83:247.
- WARD, R. H. AND R. L. PIENKOWSKI. 1978a. Biology of *Cassida rubiginosa*, a thistle-feeding shield beetle. Annals of the Entomological Society of America 71(4):585-591.
- WARD, R. H. AND R. L. PIENKOWSKI. 1978b. Mortality and parasitism of *Cassida rubiginosa*, a thistle-feeding shield beetle accidentally introduced into North America. Environmental Entomology 7(4):536-540.
- WASHBURN, R. H. 1975. Red turnip beetle. Agroborealis 7:11.
- WATANABE, M. 2000. Photoperiodic control of development and reproductive diapause in the leaf beetle *Ophraella communa* LeSage. Entomological Science 3(2):245-253.
- WATSON, J. R. 1918. Insects of a citrus grove. Florida Agricultural Experiment Station Bulletin 148:165-267.
- WATSON, J. R. 1922. Some beetles new to Florida. The Florida Entomologist 5:67-68.
- WATSON, J. R. AND E. W. BERGER. 1937. Citrus insects and their control. Florida Agricultural Extension Service Bulletin 88:1-135.
- WATTS, J. G. 1963. Insects associated with black gamma grass, *Bouteloua eriopoda*. Annals of the Entomological Society of America 56:374-379.
- WATTS, J. R. 1990. Eggs, larvae and biological notes on *Disonychia leptolineata* Blatchley (Coleoptera: Chrysomelidae). Insecta Mundi 4(1-4):93-97.

Literature Cited

- WAVE, H. E. 1964. Striped cucumber beetle (*Acalymma vittata*). Cooperative Economic Insect Report 14(22):547.
- WEAVER, J. E. AND C. K. DORSEY. 1965. Parasites and predators associated with five species of leaf-mining insects in black locust. *Annals of the Entomological Society of America* 58(6):933-934.
- WEAVER, J. E. AND C. K. DORSEY. 1967. Larval mine characteristics of five species of leaf-mining insects in black locust, *Robinia pseudoacacia*. *Annals of the Entomological Society of America* 60(1):172-186.
- WEBER, D. C., F. A. DRUMMOND, AND D. N. FERRO. 1995. Recruitment of Colorado potato beetles (Coleoptera: Chrysomelidae) to solanaceous hosts in the field. *Environmental Entomology* 24(3):608-622.
- WEBER, D. C. AND D. N. FERRO. 1996. Flight and fecundity of Colorado potato beetles (Coleoptera: Chrysomelidae) fed on different diets. *Annals of the Entomological Society of America* 89(2):297-306.
- WEBER, R. G. AND H. E. THOMPSON. 1976. Oviposition-site characteristics of the elm leaf beetle, *Pyrrhalta luteola* (Mueller) in north-central Kansas (Coleoptera: Chrysomelidae). *Journal of the Kansas Entomological Society* 49(2):171-176.
- WEBSTER, F. M. 1881. A list of Chrysomelidae observed upon *Salix discolor*, Muhl, and *S. petiolaris*, var. *gracilis*, Andrus. *Bulletin of the Brooklyn Entomological Society* 3(9):79.
- WEBSTER, F. M. 1882. Clover insects. *The American Naturalist* 16(9):746.
- WEBSTER, F. M. 1888. Report on the season's observations, and especially upon corn insects. Pages 147-154 in United States Department of Agriculture, Report of the Commissioner of Agriculture, 1887.
- WEBSTER, F. M. 1890a. Injury to grass from *Gastroidea polygoni*. *Insect Life* 2(11-12):275.
- WEBSTER, F. M. 1890b. Notes on garden insects. *Insect Life* 3(4):148-151.
- WEBSTER, F. M. 1890c. Some injurious insects of the year. *Indiana Horticultural Transactions*, 1890, pages 1-4.
- WEBSTER, F. M. 1891. The strawberry-leaf flea beetle (*Haltica ignita*) in Indiana. *Insect Life* 3(7-8):317-318.
- WEBSTER, F. M. 1893a (1892). Insects affecting the blackberry and raspberry. *Bulletin of the Ohio Agricultural Experiment Station* 45:151-217.
- WEBSTER, F. M. 1893b. Miscellaneous entomological papers. *Bulletin of the Ohio Agricultural Experiment Station* 51: 85-143.
- WEBSTER, F. M. 1894. Studies of the development of *Fidia viticida* Walsh, with descriptions of one new genus and two new species of Hymenoptera, by Wm. H. Ashmead. *The Journal of the Cincinnati Society of Natural History* 17:159-169.
- WEBSTER, F. M. 1895a. The grape root worm, *Fidia viticida*, Walsh. *Bulletin of the Ohio Agricultural Experiment Station* 62:77-95.
- WEBSTER, F. M. 1895b. On the probable origin, development and diffusion of North American species of the genus *Diabrotica*. *Journal of the New York Entomological Society* 3:158-166.
- WEBSTER, F. M. 1896. On the probable origin and diffusion of North American species of the genus *Diabrotica*. II. *Journal of the New York Entomological Society* 4:67-68.
- WEBSTER, F. M. 1900. Insects of the year in Ohio. United States Department of Agriculture, Division of Entomology, *Bulletin (New Series)* 26:84-90.
- WEBSTER, F. M. 1901. The southern corn-leaf beetle: a new insect pest of growing corn. *Journal of the New York Entomological Society* 9:127-132.
- WEBSTER, F. M. 1908. [Untitled]. *Proceedings of the Entomological Society of Washington* 10(1-2):73-74.
- WEBSTER, F. M. 1913a. The southern corn rootworm, or budworm. *Bulletin of the United States Department of Agriculture* 5:1-11.
- WEBSTER, F. M. 1913b. The western corn rootworm. *Bulletin of the United States Department of Agriculture* 8:1-8.
- WEBSTER, F. M. AND C. W. MALLY. 1898. Insects of the year in Ohio. United States Department of Agriculture, Division of Entomology, *Bulletin (New Series)* 17:98-102.
- WEBSTER, J. A. AND D. H. SMITH. 1971. Seedlings used to evaluate resistance to the cereal leaf beetle. *Journal of Economic Entomology* 64(4):925-928.
- WEBSTER, R. L. 1915. Potato insects. *Iowa Agricultural Experiment Station Bulletin* 155:357-420.
- WEBSTER, R. L. 1932. Injury and distribution of potato flea-beetle in Washington, *Epitrix cucumeris* Harris, *Epitrix subcrinita* Leconte. *Journal of Economic Entomology* 25:976-980.
- WEBSTER, R. L. AND W. W. BAKER. 1929. Potato flea-beetles in Washington, *Epitrix subcrinita* LeConte: *Epitrix cucumeris* Harris. *Journal of Economic Entomology* 22:897-900.
- WEBSTER, R. L., W. W. BAKER, AND A. J. HANSON. 1932. Potato flea-beetles in Washington. *Washington Agricultural Experiment Station Bulletin* 261:1-20.
- WEED, C. M. 1895. Remedies for flea-beetles. *New Hampshire Agricultural Experiment Station Bulletin* 29:1-7.
- WEED, H. E. 1895. Entomological work. *Annual Report of the Mississippi Agricultural and Mechanical College Experiment Station* 8:69-78.
- WEESE, A. O. 1925 (1924). Animal ecology of an Illinois elm-maple forest. *Illinois Biological Monographs* 9(4):346-437.
- WEGOREK, W. 1959. Stonka ziemniaczana, *Leptinotarsa decemlineata* Say. *Prace Naukowe Instytutu Ochrony Roslin* 1(2):7-167.
- WEIGEL, C. A. 1926. The strawberry rootworm, a new pest on greenhouse roses. *United States Department of Agriculture Bulletin* 1357:1-48.

- WEIGEL, C. A. AND L. G. BAUMHOFFER. 1948. Handbook of insect enemies of flowers and shrubs. United States Department of Agriculture, Miscellaneous Publication 626:1-115.
- WEIGEL, C. A. AND E. L. CHAMBERS. 1920. The strawberry root-worm injuring roses in greenhouses. *Journal of Economic Entomology* 13:226-232.
- WEIGEL, C. A. AND C. F. DOUCETTE. 1923. The strawberry rootworm as an enemy of the greenhouse rose. United States Department of Agriculture, Farmers' Bulletin 1344:1-14.
- WEINZIERL, R. A., R. E. BERRY, AND G. C. FISHER. 1986. Sweep-net sampling for western spotted cucumber beetle (Coleoptera: Chrysomelidae) in snap beans: daily fluctuations in beetle counts and correlation between relative and absolute density estimates. *Journal of Economic Entomology* 79(4):1100-1105.
- WEISER, J. AND Z. HOSTOUNSKY. 1967. Contribución al conocimiento de los parásitos de *Polygramma undecimlineata* (Stal) en Cuba (Coleoptera: Chrysomelidae). *Poeyana (Serie A)* 34:1-6.
- WEISMAN, D. M. 1960. A Revision of the Species of the Genus *Xanthonia* Baly in America, North of Mexico. M. S. Thesis, North Carolina State College, Raleigh, North Carolina.
- WEISS, H. B. 1919a. The more important insect enemies of the rose-mallow in New Jersey. State of New Jersey, Department of Agriculture, Bureau of Statistics and Inspection, Circular 25:1-9.
- WEISS, H. B. 1919b. The more important nursery insects in New Jersey. State of New Jersey, Department of Agriculture, Bureau of Statistics and Inspection, Circular 26:1-47.
- WEISS, H. B. 1922a. Additional nursery insects. State of New Jersey, Department of Agriculture, Bureau of Statistics and Inspection, Circular 41:1-17.
- WEISS, H. B. 1922b. The evening primrose in relation to insects. *The Canadian Entomologist* 54(9):193-195.
- WEISS, H. B. AND E. L. DICKERSON. 1917. *Plagioderia versicolora* Laich. – an imported poplar and willow pest. *The Canadian Entomologist* 49:104-109.
- WEISS, H. B. AND E. L. DICKERSON. 1919. Insects of the swamp rose-mallow, *Hibiscus moscheutos* L., in New Jersey. *Journal of the New York Entomological Society* 17(1):39-68.
- WEISS, H. B. AND E. L. DICKERSON. 1921. Notes on milkweed insects in New Jersey. *Journal of the New York Entomological Society* 29(3-4):123-145.
- WEISS, H. B. AND A. S. NICOLAY. 1919. Notes on *Zeugophora scutellaris* Suffr., a European poplar leaf-miner, in New Jersey (Col.). *Entomological News* 30:124-127.
- WEISS, H. B. AND R. S. PATTERSON. 1912. Nursery insects. New Jersey Agricultural Experiment Stations Circular 15:1-29.
- WEISS, H. B. AND E. WEST. 1920. Notes on *Galerucella nymphaeae* L., the pond-lily leaf-beetle (Coleop.). *The Canadian Entomologist* 52(8):237-239.
- WEISS, H. B. AND E. WEST. 1922. Notes on the insects of the spreading dogbane, *Apocynum androsaemifolium* L., with a description of a new dogbane midge, by E. P. Felt. *The Canadian Entomologist* 53:146-152.
- WEISS, H. B. AND E. WEST. 1925. The insects and plants of a strip of New Jersey coast. *Psyche* 32(4-5):231-243.
- WELCH, K. A. 1978. Biology of *Ophraella notulata* (Coleoptera: Chrysomelidae). *Annals of the Entomological Society of America* 71(1):134-136.
- WELDEN, G. P. 1908. Entomological notes from Maryland. *Journal of Economic Entomology* 1:145-148.
- WELLHOUSE, W. H. 1919. *Xanthonia villosula* Melsh. injuring forest trees (Coleoptera, Chrysomelidae). *Journal of Economic Entomology* 12:396-397.
- WELLHOUSE, W. H. 1922. The insect fauna of the genus *Crataegus*. Cornell University, Agricultural Experiment Station, Memoir 56:1040-1136.
- WELLS, *. 1975. A flea beetle (*Systema frontalis*). Cooperative Economic Insect Report 25(34):707.
- WELLSO, S. G. AND R. P. HOXIE. 1988. Biology of *Oulema*. Pages 497-511 in P. Jolivet, E. Petitpierre, and T. H. Hsiao (eds.). *Biology of Chrysomelidae*. Kluwer Academic Publishers, The Netherlands.
- WENE, G. P. 1968. Biology of the elm leaf beetle in southern Arizona. *Journal of Economic Entomology* 61(4):1178-1180.
- WENE, G. P., L. A. CARRUTH, AND A. D. TELFORD. 1965. Descriptions and habits of Arizona cotton insects. The University of Arizona, Cooperative Extension Service, Bulletin A-23 (revised):1-61.
- WENE, G. P., J. N. RONEY, AND S. STEDMAN. 1968. Control of the elm leaf beetle in Arizona. *Journal of Economic Entomology* 61(5):1180-1182.
- WENZEL, H. W. 1894. List of the Hispini found in New Jersey. *Entomological News* 5(2):40-41.
- WERNER, F. G., L. MOORE, AND T. F. WATSON. 1979. Arizona cotton insects. The University of Arizona, Cooperative Extension Service, Bulletin A23 (revised):1-38.
- WEST, A. S. AND T. M. LOTHIAN. 1948 (1947). The basswood leaf-miner, *Baliosus ruber* (Weber), (Chrysomelidae, Hispini), in the Rideau Lakes region. *Annual Report of the Entomological Society of Ontario* 78:62-65.
- WESTCOTT, C. 1946. *The Gardener's Bug Book, 1,000 Insect Pests and their Control*. Doubleday & Company, New York. 590 pages.
- WESTCOTT, R. L. 1968. Western spotted cucumber beetle (*Diabrotica undecimpunctata undecimpunctata*). Cooperative Economic Insect Report 18(28):634.
- WESTCOTT, R. L., R. E. BROWN, D. B. SHARRATT, AND R. E. WHITE. 1985. *Longitarsus*: a new species from Oregon and a new record for North America (Coleoptera: Chrysomelidae). *The Pan-Pacific Entomologist* 61(4):323-330.

Literature Cited

- WESTDAL, P. H. AND C. F. BARRETT. 1955. Insect pests of sunflowers in Manitoba. Canada Department of Agriculture, Science Service, Entomology Division, Publication 944:1-8.
- WESTDAL, P. H. AND W. ROMANOW. 1972. Observations on the biology of the flea beetle, *Phyllotreta cruciferae* (Coleoptera: Chrysomelidae). The Manitoba Entomologist 6:35-45.
- WESTDAL, P. H., W. Romanow, and W. L. Askew. 1976. The sunflower beetle. Canadex (Sunflowers, Field Crop Insects) 145:622:1-2.
- WESTON, P. A. 2001. Viburnum leaf beetle, *Pyrrhalta viburni* (Paykull), Coleoptera: Chrysomelidae. Regulatory Horticulture (Pennsylvania Department of Agriculture), Entomology Circular 201:25-28.
- WESTON, P. A. AND G. DESURMONT. 2002. Suitability of various species of *Viburnum* as hosts for *Pyrrhalta viburni*, an introduced leaf beetle. Journal of Environmental Horticulture 20(4):224-227.
- WESTON, P. A., B. C. ESHENAU, J. M. BAIRD, AND J. S. LAMBOY. 2002. Evaluation of insecticides for control of larvae of *Pyrrhalta viburni*, a new pest of viburnums. Journal of Environmental Horticulture 20(2):82-85.
- WESTON, P. A., B. C. ESHENAU, AND J. S. LAMBOY. 2001. Control options for the viburnum leaf beetle. Yankee Grower 3(4):11-13.
- WESTON, P. A., B. C. ESHENAU, AND R. E. MCNEIL. 2000. *Viburnum* resistance. American Nurseryman 192(10):51-53.
- WESTON, P. A. AND E. R. HOEBEKE. 2003. Viburnum leaf beetle, *Pyrrhalta viburni* (Paykull) (Coleoptera: Chrysomelidae): dispersal pattern of a Palearctic landscape pest in New York and its distribution status in the northeastern U.S. and eastern Canada. Proceedings of the Entomological Society of Washington 105(4):889-895.
- WESTON, P. A., E. R. HOEBEKE, AND B. C. ESHENAU. 1999. Viburnum leaf beetle, *Pyrrhalta viburni* (Paykull) Coleoptera: Chrysomelidae. Cornell University, New York. 2 pages.
- WESTOVER, K. C. AND J. G. LEACH. 1943. Growing potatoes in West Virginia. West Virginia Agricultural Experiment Station Circular 78:1-48.
- WHEELER, A. G. 1980. Japanese pagodatree: a host of locust leafminer, *Odontota dorsalis* (Thunberg) (Coleoptera: Chrysomelidae). The Coleopterists Bulletin 34(1):95-98.
- WHEELER, A. G. 1981. Insect associates of spurge, mainly *Euphorbia maculata* L., in eastern United States. Proceedings of the Entomological Society of Washington 83(4):631-641.
- WHEELER, A. G. 1987. Locust leafminer, *Odontota dorsalis* (Thunberg), Coleoptera: Chrysomelidae. Regulatory Horticulture (Pennsylvania Department of Agriculture), Entomology Circular 115:15-17.
- WHEELER, A. G. 1988. *Diabrotica cristata*, a chrysomelid (Coleoptera) of relict midwestern prairies discovered in eastern serpentine barrens. Entomological News 99(3):134-142.
- WHEELER, A. G. 1989. *Disonycha punctigera* (Coleoptera: Chrysomelidae): first host record of a little-known flea beetle. Entomological News 100(2):67-71.
- WHEELER, A. G. 1992. Holarctic insects adventive in Michigan: new and additional records (Homoptera, Heteroptera, Coleoptera, Neuroptera). The Great Lakes Entomologist 25(2):99-106.
- WHEELER, A. G. 1994. *Diabrotica cristata*, a seldom-collected leaf beetle, found on Buffalo Mountain, Floyd County, Virginia (Coleoptera: Chrysomelidae). Banisteria 4:28-29.
- WHEELER, A. G. AND E. R. HOEBEKE. 1979. Biology and seasonal history of *Calligrapha spiraeae* (Say) (Coleoptera: Chrysomelidae), with descriptions of the immature stages. The Coleopterists Bulletin 33(3):257-267.
- WHEELER, A. G. AND E. R. HOEBEKE. 1983. New records of a Palearctic flea beetle, *Psylliodes affinis*, in eastern North America (Coleoptera: Chrysomelidae). Proceedings of the Entomological Society of Washington 85(3):594-597.
- WHEELER, A. G. AND E. R. HOEBEKE. 1994. First records from the Canadian maritime provinces of three European insects injurious to ornamental plants. Proceedings of the Entomological Society of Washington 96(4):749-756.
- WHEELER, A. G. AND E. R. HOEBEKE. 2001. *Phaedon desotonis* Balsbaugh (Coleoptera: Chrysomelidae): new distribution records, first host-plant associations, and seasonality of a seldom-collected beetle of rock-outcrop communities. Proceedings of the Entomological Society of Washington 103(4):826-831.
- WHEELER, A. G. AND S. A. MENGEL. 1984. Phytophagous insect fauna of *Polygonum perfoliatum*, an Asiatic weed recently introduced to Pennsylvania. Annals of the Entomological Society of America 77(2):197-202.
- WHEELER, A. G. AND W. A. SNOOK. 1986. Biology of *Sumitrosis rosea* (Coleoptera: Chrysomelidae), a leafminer of black locust, *Robinia pseudoacacia* (Leguminosae). Proceedings of the Entomological Society of Washington 88(3):521-530.
- WHEELER, A. G. AND J. F. STIMMEL. 1983. The phytophagous and predaceous arthropod fauna of soybean in Pennsylvania. Melsheimer Entomological Series 33:31-38.
- WHELAN, D. B. 1936. Coleoptera of an original prairie area in eastern Nebraska. Journal of the Kansas Entomological Society 9(4):111-115.
- WHITCOMB, W. D. AND E. F. GUBA. 1943. Part II – Notes on other pests of grapes in Massachusetts. Pages 14-20 in W. D. Whitcomb, W. E. Tomlinson, and E. F. Guba. The grape plum moth, with notes on other pests of grapes in Massachusetts. Massachusetts Agricultural Experiment Station Bulletin 409.
- WHITE, B. E. 1937. Three new beetles of the genus *Cryptocephalus* (Chrysomelidae). The Pan-Pacific Entomologist 13(3):111-114.
- WHITE, B. E. 1942a. A new genus and species of Coleoptera (Chrysomelidae) from southwestern United States. Entomological News 53:16-21.

- WHITE, B. E. 1942b. A new species of *Luperodes* with notes on other Coleoptera (Chrysomelidae, Buprestidae). Bulletin of the Brooklyn Entomological Society 37:31-34.
- WHITE, B. E. 1944. A new *Scelolyperus* and a key to the American species north of Mexico (Coleoptera: Chrysomelidae). Entomological News 55:177-180.
- WHITE, C. E. 1957. Summary of insect conditions – 1956, Illinois. Cooperative Economic Insect Report 7(11):201.
- WHITE, C. E. 1966. Corn rootworms (*Diabrotica* spp.). Cooperative Economic Insect Report 16(37):900.
- WHITE, G. F. 1935. Potato beetle septemia. Journal of Agricultural Research 51(3):223-234.
- WHITE, R. E. 1964. Injurious beetles of the genus *Diabrotica* (Coleoptera: Chrysomelidae). Florida Department of Agriculture, Division of Plant Industry, Entomology Circular 27:1-2.
- WHITE, R. E. 1967. The cottonwood leaf beetle and related species with similar habits. Cooperative Economic Insect Report 17(48):1038.
- WHITE, R. E. 1968. A review of the genus *Cryptocephalus* in America north of Mexico (Chrysomelidae: Coleoptera). United States National Museum Bulletin 290:1-124.
- WHITE, R. E. 1969. Populations of the northern corn rootworm, *Diabrotica longicornis* (Say). Cooperative Economic Insect Report 19(8):112-113.
- WHITE, R. E. 1975. The identity of *Gratiana lutescens* (Boh.) and *G. pallidula* (Boh.) (Cassidinae: Chrysomelidae). Cooperative Economic Insect Report 25(10):166.
- WHITE, R. E. 1979a. A Neotropical leaf beetle established in the United States (Chrysomelidae). Annals of the Entomological Society of America 72(2):269-270.
- WHITE, R. E. 1979b. Pests not known to occur in the United States or of limited distribution. A striped leaf beetle *Medythia suturalis* (Motschulsky) Coleoptera: Chrysomelidae. Cooperative Plant Pest Report 4(9):95-96.
- WHITE, R. E. 1979c. A chrysomelid beetle (*Psylliodes picina* (Marshall)). Cooperative Plant Pest Report 4(14):202.
- WHITE, R. E. 1981. The genus *Uroplata*, type-species and authorship (Coleoptera: Chrysomelidae). Proceedings of the Entomological Society of Washington 83(4):713-715.
- WHITE, R. E. 1983. A Field Guide to the Beetles of North America. Houghton Mifflin Company, Boston, Massachusetts. 368 pages.
- WHITE, R. E. 1990. A new *Disonycha* from the Dominican Republic that is a possible pest of melons (Coleoptera: Chrysomelidae). The Coleopterists Bulletin 44(3):362-364.
- WHITE, R. E. 1993. A revision of the subfamily Criocerinae (Chrysomelidae) of North America north of Mexico. United States Department of Agriculture, Agricultural Research Service, Technical Bulletin 1805:1-158.
- WHITE, R. E. 1996a. A revision of the genus *Chaetocnema* of America north of Mexico (Coleoptera: Chrysomelidae). Contributions of the American Entomological Institute 29(1):1-158.
- WHITE, R. E. 1996b. Leaf beetles as biological control agents against injurious plants in North America. Pages 373-399 in P. H. A. Jolivet and M. L. Cox (eds.). Chrysomelidae Biology, Volume 2: Ecological Studies. SPB Academic Publishing, Amsterdam, The Netherlands.
- WHITE, R. E. AND H. S. BARBER. 1974. Nomenclature and definition of the tobacco flea beetle, *Epitrix hirtipennis* (Melsh.), and of *E. fasciata* Blatchley, (Coleoptera: Chrysomelidae). Proceedings of the Entomological Society of Washington 76(4):397-400.
- WHITE, R. E. AND W. H. DAY. 1979. Taxonomy and biology of *Lema trivittata* Say, a valid species with notes on *L. trilineata* (Oliv.) (Coleoptera: Chrysomelidae). Entomological News 90(5):209-217.
- WHITE, R. P. AND C. C. HAMILTON. 1935. Diseases and insect pests of rhododendron and azalea. New Jersey Agricultural Experiment Station Circular 350:1-23.
- WHITEHEAD, D. R. AND R. M. DUFFIELD. 1982. An unusual specialized predator prey association (Coleoptera: Cecinellidae, Chrysomelidae): failure of a chemical defense and possible practical application. The Coleopterists Bulletin 36(1):96-97.
- WHITEHEAD, W. E. 1919 (1918). Notes on the life history and immature stages of three common chrysomelids. Proceedings of the Entomological Society of Nova Scotia 4:38-50.
- WHITEHEAD, W. E. 1920 (1919). Notes on the life history of two chrysomelids. Proceedings of the Entomological Society of Nova Scotia 5:34-41.
- WICKHAM, H. F. 1890a. Notes from the Northwest. Entomological News 1(3):33-36.
- WICKHAM, H. F. 1890b. Regarding *Stenopodius flavidus*. Entomologica Americana 6(3):52.
- WICKHAM, H. F. 1896a. The Coleoptera of Canada. The Chrysomelidae of Ontario and Quebec. The Canadian Entomologist 28:67-74, 151-157, 171-174, 199-203.
- WICKHAM, H. F. 1896b. A list of some Coleoptera from the northern portions of New Mexico and Arizona. State University of Iowa, Laboratory of Natural History, Bulletin 3:153-171.
- WICKHAM, H. F. 1897. The Coleoptera of Canada. The Chrysomelidae of Ontario and Quebec. The Canadian Entomologist 29:7-12, 29-37, 60-63.
- WICKHAM, H. F. 1898. The beetles of southern Arizona. Bulletin of the Laboratories of Natural History, State University of Iowa 4(3):295-312.
- WICKHAM, H. F. 1902. A catalogue of the Coleoptera of Colorado. Bulletin from the Laboratories of Natural History of the State of Iowa 5:217-310.
- WIEGERT, R. G., E. P. ODUM, AND J. H. SCHNELL. 1967. Forb-arthropod food chains in a one-year experimental field.

Literature Cited

- Ecology 48(1):75-83.
- WIESENBERN, W. D. AND J. L. KRYSAN. 1980. A survey for *Diabrotica cristata* (Coleoptera: Chrysomelidae) on relict prairies of eastern South Dakota and southwestern Minnesota. *Proceedings of the South Dakota Academy of Science* 59:130-137.
- WILCOX, J. A. 1951. A new species and new genus of Galerucinae (Chrysomelidae: Coleoptera). *The Ohio Journal of Science* 51(2):90-94.
- WILCOX, J. A. 1953. New species of Galerucinae and Alticinae with notes on other species. *The Ohio Journal of Science* 53(1):51-
- WILCOX, J. A. 1954. Leaf beetles of Ohio (Chrysomelidae: Coleoptera). *Ohio Biological Survey Bulletin* 43:353-506.
- WILCOX, J. A. 1957. A revision of the North American species of *Paria* Lec. (Coleoptera: Chrysomelidae). *New York State Museum and Science Service Bulletin* 365:1-45.
- WILCOX, J. A. 1965. A synopsis of the North American Galerucinae (Coleoptera: Chrysomelidae). *New York State Museum and Science Service Bulletin* 400:1-226.
- WILCOX, J. A. 1969. European potato flea beetle (*Psylliodes affinis*). *Cooperative Economic Insect Report* 19(22):380.
- WILCOX, J. A. 1972. A review of the North American chrysomeline leaf beetles (Coleoptera: Chrysomelidae). *New York State Museum and Science Service Bulletin* 421:1-37.
- WILCOX, J. A. 1979. Leaf Beetle Host Plants in Northeastern North America (Coleoptera: Chrysomelidae). *North American Beetle Fauna Project*. World Natural History Publications, Kinderhook, New York. 30 pages.
- WILDERMUTH, W. L. 1917. The desert corn flea-beetle. *United States Department of Agriculture Bulletin* 436:1-23.
- WILKINSON, * AND * HETRICK. 1967. A leaf beetle (*Systema marginalis*). *Cooperative Economic Insect Report* 17(29): 655.
- WILLEY, *. 1955. Bean leaf beetle (*Cerotoma trifurcata*). *Cooperative Economic Insect Report* 5(23):518.
- WILLIAMS, A. H. 1999. Arthropod fauna using marbled seed in Wisconsin. *Proceedings of the North American Prairie Conference* 16:165-171.
- WILLIAMS, A. H. 2002. *Longitarsus melanurus* (Coleoptera: Chrysomelidae) reproduces on *Onosmodium molle* (Boraginaceae). *The Great Lakes Entomologist* 35(1):35.
- WILLIAMS, C. E. 1987. Exploitation of eggs of the Colorado potato beetle, *Leptinotarsa decemlineata* (Coleoptera: Chrysomelidae), by the exotic egg parasitoid *Edovum puttleri* (Hymenoptera: Eulophidae) in eggplant. *The Great Lakes Entomologist* 20(4):181-186.
- WILLIAMS, C. E. 1988a. Movement, dispersion, and orientation of a population of the Colorado potato beetle, *Leptinotarsa decemlineata* (Coleoptera: Chrysomelidae), in eggplant. *The Great Lakes Entomologist* 21(1):31-38.
- WILLIAMS, C. E. 1988b. Leaf beetles – the beetle botanists. *Michigan Entomological Society, Entomology Notes* 18: 1-2.
- WILLIAMS, C. E. 1988c. *Chrysochus auratus* (Coleoptera: Chrysomelidae) absolved as pecan pest. *The Great Lakes Entomologist* 21(3):127-128.
- WILLIAMS, C. E. 1989a. *Coreopsis tinctoria*: an unrecorded host plant of adult *Calligrapha californica coreopsivora* (Coleoptera: Chrysomelidae). *The Great Lakes Entomologist* 22(2):99-100.
- WILLIAMS, C. E. 1989b. Black walnut, *Juglans nigra*: a new host record for *Colaspis favosa* (Coleoptera: Chrysomelidae). *Proceedings of the Entomological Society of Washington* 91(4):640.
- WILLIAMS, C. E. 1989c. Host plants of *Microrhopala xerene* (Newman) (Coleoptera: Chrysomelidae) in southwestern Virginia. *The Coleopterists Bulletin* 43(4):391-392.
- WILLIAMS, C. E. 1989d. Damage to woody plants by the locust leafminer, *Odontota dorsalis* (Coleoptera: Chrysomelidae), during a local outbreak in an Appalachian oak forest. *Entomological News* 100(4):183-187.
- WILLIAMS, C. E. 1990. New host plants for adult *Systema hudsonias* (Coleoptera: Chrysomelidae) from southwestern Virginia. *The Great Lakes Entomologist* 23(3):149-150.
- WILLIAMS, C. E. 1991a. Host latex and the feeding behavior of *Chrysochus auratus* (Coleoptera: Chrysomelidae). *The Coleopterists Bulletin* 45(2):195-196.
- WILLIAMS, C. E. 1991b. New England aster, *Aster novae-angliae*: a new host record for *Microrhopala xerene* (Coleoptera: Chrysomelidae). *Proceedings of the Entomological Society of Washington* 93(3):790.
- WILLIAMS, C. E. 1992. Movement of the dogbane beetle, *Chrysochus auratus* (Coleoptera: Chrysomelidae), in a patchy environment. *Banisteria* 1:8-10.
- WILLIAMS, J. R. 1950. The introduction of *Physonota alutacea* Boheman (Col., Cassid.) into Mauritius. *Bulletin of Entomological Research* 40:479-480.
- WILLIAMS, R. N. AND R. W. RINGS. 1980. Insect pests of strawberries in Ohio. *Ohio Agricultural Research and Development Center, Research Bulletin* 1122:1-19.
- WILLIAMS, T. A. 1893. Common fungous and insect foes of farm and garden. *South Dakota Agricultural Experiment Station Bulletin* 35:79-87.
- WILSON, F. 1943. The entomological control of St. John's wort (*Hypericum perforatum* L.), with particular reference to the insect enemies of the weed in southern France. *Commonwealth of Australia, Council for Scientific and Industrial Research, Bulletin* 169:1-87.
- WILSON, G. F. 1928. Contributions from the Wisley Laboratory. L. – Some pests of water lilies. *Journal of the Royal Horticultural Society* 53:81-91.

- WILSON, H. F. AND G. F. MOZNETTE. 1915. The fruit tree leaf syneta, *Syneta albida* Leconte. Pages 96-101 in Second Biennial Crop Pest and Horticultural Report, 1913-1915, Oregon Agricultural College Experiment Station, Corvallis, Oregon.
- WILSON, L. F. 1977. A guide to insect injury of conifers in the lake states. United States Department of Agriculture, Forest Service, Agriculture Handbook 501:1-218.
- WILSON, M. C. 1964. Host plant – cereal leaf beetle relationships. Proceedings of the North Central Branch, Entomological Society of America 19:124-127.
- WILSON, M. C., D. L. SCUDDER, AND A. V. PROVONSHA. 1982. Practical Insect Pest Management. 4. Insects of Ornamental Plants. Second Edition. Waveland Press, Prospect Heights, Illinois. 157 pages.
- WILSON, M. C. AND R. E. SHADE. 1964a. Adult feeding, egg deposition and survival of larvae of the cereal leaf beetle on seedling grains. Purdue University, Agricultural Experiment Station, Research Progress Report 97:1-7.
- WILSON, M. C. AND R. E. SHADE. 1964b. The influence of various Gramineae on weight gains of postdiapause adults of the cereal leaf beetle, *Oulema melanopa* (Coleoptera: Chrysomelidae). Annals of the Entomological Society of America 57(6):659-661.
- WILSON, M. C. AND R. E. SHADE. 1966. Survival and development of larvae of the cereal leaf beetle, *Oulema melanopa* (Coleoptera: Chrysomelidae), on various species of Gramineae. Annals of the Entomological Society of America 59(1):170-173.
- WILSON, S. J. 1934. The anatomy of *Chrysochus auratus*, Fab., Coleoptera: (Chrysomelidae) with an extended discussion of the wing venation. Journal of the New York Entomological Society 42:65-85.
- WINDIG, J. J. 1991. Life cycle and abundance of *Longitarsus jacobaeae* (Coleoptera: Chrysomelidae), biocontrol agent of *Senecio jacobaea*. Entomophaga 36(4):605-618.
- WINDIG, J. J. 1993. Intensity of *Longitarsus jacobaeae* herbivory and mortality of *Senecio jacobaea*. Journal of Applied Ecology 30:179-186.
- WINDIG, J. J. AND K. VRIELING. 1996. Biology and ecology of *Longitarsus jacobaeae* and other *Longitarsus* species feeding on *Senecio jacobaea*. Pages 315-326 in P. H. A. Jolivet and M. L. Cox (eds.). Chrysomelidae Biology, Volume 3: General Studies. SPB Academic Publishing, Amsterdam, The Netherlands.
- WINDSOR, D. M., E. G. RILEY, AND H. P. STOCKWELL. 1992. A introduction to the biology and systematics of Panamanian tortoise beetles (Coleoptera: Chrysomelidae: Cassidinae). Pages 372-391 in D. Quintero and A. Aiello (eds.). Insects of Panama and Mesoamerica, Selected Studies. Oxford University Press, Oxford.
- WINKELMAN, J. 1992. Vijf nieuwe bladhaantjes (Chrysomelidae) voor de wadden. Nieuwsbrief European Invertebrate Survey – Nederland 21:23-24.
- WINN, A. F. 1911 (1910). The horse-radish flea-beetle (*Phyllotreta armoraciae*, Koch). Annual Report of the Entomological Society of Ontario 41:59-60.
- WINN, A. F. 1917. Note on *Physonota unipuncta* [sic] (Coleoptera). Annual Report of the Entomological Society of Ontario 47:50-51.
- WISDOM, C. S. 1985. Use of chemical variation and predation as plant defenses by *Encelia farinosa* against a specialist herbivore. Journal of Chemical Ecology 11(11):1553-1565.
- WISEMAN, B. R., C. V. HALL, AND R. H. PAINTER. 1961. Interactions among cucurbit varieties and feeding responses of the striped and spotted cucumber beetles. Proceedings of the American Society for Horticultural Science 78: 379-384.
- WOLCOTT, A. B. AND B. E. MONTGOMERY. 1933. An ecological study of the coleopterous fauna of a tamarack swamp. The American Midland Naturalist 14:113-169.
- WOLCOTT, G. N. 1936. Insectae borinquenses. The Journal of Agriculture of the University of Puerto Rico 20:1-19, 182-185, 264-285.
- WOLCOTT, G. N. 1951 (1948). The insects of Puerto Rico, Coleoptera. The Journal of Agriculture of the University of Puerto Rico 32:225-416.
- WOLFENBARGER, D. A. 1966. Variations in leaf miner and flea beetle injury in tomato varieties. Journal of Economic Entomology 59(1):65-68.
- WOLFENBARGER, D. O. 1954. Banded cucumber beetle (*Diabrotica balteata*). Cooperative Economic Insect Report 4(39):888.
- WOLFENBARGER, D. O. 1955. Banded cucumber beetle (*Diabrotica balteata*). Cooperative Economic Insect Report 5(7):133.
- WOLFENBARGER, D. O. 1958. Insect pests of the avocado and their control. Florida Agricultural Experiment Stations Bulletin 605:1-51.
- WOLFENBARGER, D. O. 1960. Banded cucumber beetle (*Diabrotica balteata*). Cooperative Economic Insect Report 10(20):382.
- WOLFENBARGER, D. O. 1963. The banded cucumber beetle and its control. Journal of Economic Entomology 56(6): 770-773.
- WOOD, *, P. P. BURBUTIS, AND A. MASON. 1961. Pale striped flea beetle (*Systema blanda*). Cooperative Economic Insect Report 11(27):596.
- WOOD, G. W. 1966. Life history and control of a casebearer, *Chlamisus cribripennis* (Coleoptera: Chrysomelidae), on blueberry. Journal of Economic Entomology 59(4):823-825.

Literature Cited

- WOOD, G. W. 1970. Survival of blueberry casebeetle adults in burned blueberry fields. *Journal of Economic Entomology* 63(4):1364.
- WOOD, G. W. AND D. N. SMALL. 1970. A method of sampling for adults of *Chlamisus cribripennis*. *Journal of Economic Entomology* 63(4):1361-1362.
- WOOD, M. 1940. The rose leaf beetle in Pennsylvania. *Pennsylvania Agricultural Experiment Station Bulletin* 387:1-22.
- WOOD, M. AND H. N. WORTHLEY. 1937. Rose leaf beetle in Pennsylvania. *Journal of Economic Entomology* 30(6):969-970.
- WOOD, S. L. AND G. F. KNOWLTON. 1949. *Diachus auratus*, a new strawberry pest in Utah. *Journal of Economic Entomology* 42:989.
- WOODRUFF, L. B. 1913. *Donacia emarginata* Kirby (Coleoptera), a biographic note. *The Canadian Entomologist* 45:210-211.
- WOODRUFF, R. E. 1961. A leaf beetle (*Rhabdopterus bowditchi*). *Cooperative Economic Insect Report* 11(7):69.
- WOODRUFF, R. E. 1965a. A tortoise beetle (*Hemisphaerota cyanea* (Say)) on palms in Florida (Coleoptera: Chrysomelidae). *Florida Department of Agriculture, Division of Plant Industry, Entomology Circular* 35:1-2.
- WOODRUFF, R. E. 1965b. The leaf beetle genus *Chrysomela* in Florida (Coleoptera: Chrysomelidae). *Florida Department of Agriculture, Division of Plant Industry, Entomology Circular* 40:1-2.
- WOODRUFF, R. E. 1974. A South American leaf beetle pest of crucifers in Florida (Coleoptera: Chrysomelidae). *Florida Department of Agriculture and Consumer Services, Division of Plant Industry, Entomology Circular* 148:1-2.
- WOODRUFF, R. E. 1975. The tortoise beetles of Florida II, *Plagiometriona clavata* (Fabricius) (Coleoptera: Chrysomelidae). *Florida Department of Agriculture and Consumer Services, Division of Plant Industry, Entomology Circular* 155:1-2.
- WOODRUFF, R. E. 1976a. The tortoise beetles of Florida III, *Eurypepla calochroma floridensis* Blake (Coleoptera: Chrysomelidae). *Florida Department of Agriculture and Consumer Services, Division of Plant Industry, Entomology Circular* 163:1-2.
- WOODRUFF, R. E. 1976b. The tortoise beetles of Florida IV, *Metriona bicolor* (Fabricius) (Coleoptera: Chrysomelidae). *Florida Department of Agriculture and Consumer Services, Division of Plant Industry, Entomology Circular* 164:1-2.
- WOODS, W. 1992. Phytophagous insects collected from *Parkinsonia aculeata* (Leguminosae: Caesalpinaceae) in the Sonoran Desert region of the southwestern United States and Mexico. *Entomophaga* 37(3):465-474.
- WOODS, W. C. 1915. Blueberry insects in Maine. *Maine Agricultural Experiment Station Bulletin* 244:249-288.
- WOODS, W. C. 1917. The biology of the alder flea-beetle, *Altica bimarginata* Say. *Maine Agricultural Experiment Station Bulletin* 265:249-284.
- WOODS, W. C. 1918a. The biology of Maine species of *Altica*. *Maine Agricultural Experiment Station Bulletin* 273:149-204.
- WOODS, W. C. 1918b. The alimentary canal of the larva of *Altica bimarginata* Say (Coleoptera). *Annals of the Entomological Society of America* 11:283-312.
- WOODS, W. C. 1924. The blueberry leaf-beetle and some of its relatives. Part two. Economic and biological. *Maine Agricultural Experiment Station Bulletin* 319:92-140.
- WOODSIDE, A. M. 1964. A flea beetle (*Systema taeniata*). *Cooperative Economic Insect Report* 14(24):606.
- WRAY, D. L. 1950. Insects of North Carolina, Second Supplement. *North Carolina Department of Agriculture, Division of Entomology, Raleigh, North Carolina*. 59 pages.
- WRAY, D. L. 1965. Mottled tortoise beetle (*Deloyala guttata*). *Cooperative Economic Insect Report* 15(24):608.
- WRAY, D. L. 1966. Potato flea beetle (*Epirix cucumeris*). *Cooperative Economic Insect Report* 16(22):486.
- WRAY, D. L. 1967. Insects of North Carolina, Third Supplement. *North Carolina Department of Agriculture, Division of Entomology, Raleigh, North Carolina*. 181 pages.
- WRAY, D. L. AND C. S. BRIMLEY. 1943. The insect inquilines and victims of pitcher plants in North Carolina. *Annals of the Entomological Society of America* 36:128-137.
- WRESSELL, H. B. 1955. Insects attacking corn in eastern Canada. *Canada Department of Agriculture, Science Service, Entomology Division, Publication* 945:1-8.
- WRESSELL, H. B. 1963. A flea beetle (*Systema frontalis* (F.)). *The Canadian Insect Pest Review* 41(4):96.
- WRIGHT, R. J., M. B. DIMOCK, W. M. TINGEY, AND R. L. PLAISTED. 1985. Colorado potato beetle (Coleoptera: Chrysomelidae): expression of resistance in *Solanum berthaultii* and interspecific potato hybrids. *Journal of Economic Entomology* 78(3):576-582.
- WYLIE, H. G. 1979. Observations on distribution, seasonal life history, and abundance of flea beetles (Coleoptera: Chrysomelidae) that infest rape crops in Manitoba. *The Canadian Entomologist* 111:1345-1353.
- XU, G. AND G. E. LONG. 1995. Feeding and performance of Colorado potato beetle, *Leptinotarsa decemlineata* (Coleoptera: Chrysomelidae), reared on nightshade and potato. *Journal of the Entomological Society of British Columbia* 92:73-79.
- XU, G. AND G. E. LONG. 1997. Host-plant phenology and Colorado potato beetle (Coleoptera: Chrysomelidae) population trends in eastern Washington. *Environmental Entomology* 26(1):61-66.
- YAMAZAKI, K., C. IMAI, AND Y. NATUHARA. 2000. Rapid population growth and food-plant exploitation pattern in an exotic leaf beetle, *Ophraella communa* LeSage (Coleoptera: Chrysomelidae), in western Japan. *Applied Entomology and Zoology* 35(2):215-223.

- YARO, N. AND J. L. KRYSAN. 1986. Host relationships of *Diabrotica cristata* (Coleoptera: Chrysomelidae). Entomological News 97(1):11-16.
- YENCHO, G. C. AND W. M. TINGEY. 1994. Glandular trichomes of *Solanum berthaultii* alter host preference of the Colorado potato beetle, *Leptinotarsa decemlineata*. Entomologia Experimentalis et Applicata 70:217-225.
- YÉPEZ GIL, G. AND A. MONTAGNE. 1984. Identificación de huevos de coquitos perforadores (Coleoptera: Chrysomelidae), plagas de caraota (*Phaseolus vulgaris* L.). Primeras Jornadas Venezolanas de Microscopía Electrónica 1984:228-229.
- YÉPEZ GIL, G. AND A. MONTAGNE. 1985. Estudio sobre algunos aspectos de la biología de *Andrector arcuatus* Olivier, *A. ruficornis* Olivier y *Gynandrobrotica equestris* Fabricius (Coleoptera: Chrysomelidae), plagas de importancia de caraota (*Phaseolus vulgaris* L.). Boletín de Entomología Venezolana 4(5):33-41.
- YÉPEZ GIL, G. AND A. MONTAGNE. 1989a. Fluctuaciones poblacionales de coquitos perforadores (*Andrector arcuatus* Olivier, *A. ruficornis* Olivier y *Gynandrobrotica equestris* Fabricius. Coleoptera: Chrysomelidae [sic]) en campos de caraota (*Phaseolus vulgaris*). Agronomía Tropical 39(4-6):207-231.
- YÉPEZ GIL, G. AND A. MONTAGNE. 1989b. Disposición espacial de coquitos perforadores (*Andrector arcuatus* Olivier, *A. ruficornis* Olivier y *Gynandrobrotica equestris* Fabricius, Coleoptera: Chrysomelidae) dentro de campos cultivados de caraota (*Phaseolus vulgaris* L.). Agronomía Tropical 39(4-6):233-247.
- YÉPEZ GIL, G. AND A. MONTAGNE. 1990a. Altura de vuelo de coquitos perforadores (*Andrector arcuatus* Olivier y *A. ruficornis* Olivier. Coleoptera: Chrysomelidae) en un campo de caraota (*Phaseolus vulgaris* L.). Agronomía Tropical 40(4-6):235-244.
- YÉPEZ GIL, G. AND A. MONTAGNE. 1990b. Morfología reproductiva general y clasificación del estado de desarrollo ovarial de coquitos perforadores (*Andrector arcuatus* Olivier, *A. ruficornis* Olivier y *Gynandrobrotica equestris* Fabricius. Coleoptera: Chrysomelidae). Agronomía Tropical 40(4-6):245-255.
- YÉPEZ GIL, G. AND A. MONTAGNE. 1990c. Cambios en la morfología reproductiva de las hembras de coquitos perforadores (*Andrector arcuatus* Olivier y *A. ruficornis* Olivier, Coleoptera: Chrysomelidae) a lo largo de un ciclo de cultivo de caraota (*Phaseolus vulgaris* L.). Agronomía Tropical 40(4-6):257-262.
- YOSHIOKA, E. 1968. Miscellaneous insects – three-lined potato beetle (*Lema trilineata*). Cooperative Economic Insect Report 18(22):481.
- YOSHIOKA, E. 1970. Hawaii insect report, beneficial insects. Cooperative Economic Insect Report 20(52):842.
- YOSHIOKA, E. AND * HIGA. 1966. Hawaii insect report, ornamentals. Cooperative Economic Insect Report 16(27):656.
- YOTHERS, M. A. 1916. Bud weevils and other bud-eating insects of Washington. Washington Agricultural Experiment Station Bulletin 124:1-43.
- YOUNG, C. E. AND R. W. HALL. 1986. Factors influencing suitability of elms for elm leaf beetle, *Xanthogaleruca luteola* (Coleoptera: Chrysomelidae). Environmental Entomology 15(4):843-849.
- YOUNG, D. F. 1958. Corn silk beetle (*Luperodes brunneus*). Cooperative Economic Insect Report 8(29):627.
- YOUNG, R. A. 1906. Insects affecting the poplar. Proceedings of the Columbus Horticultural Society 1906:68-83.
- YOUNG, R. T. 1935. "Sleep" aggregations in the beetle, *Altica bimarginata*. Science 81:435-436.
- YOUTSEY, *. 1964. A leaf beetle (*Anomoea laticlavata*). Cooperative Economic Insect Report 14(28):771.
- YU, P., W. LU, AND R. CASAGRANDE. 2001. *Lilioceris lilii* (Scopoli) occurs in China (Coleoptera: Chrysomelidae). The Coleopterists Bulletin 55(1):65-66.
- YU, P., X. YANG, AND S. WANG. 1996. Biology of *Syneta adamsi* Baly and its phylogenetic implication. Pages 201-216 in P. H. A. Jolivet and M. L. Cox (eds.). Chrysomelidae Biology, Volume 3: General Studies. SPB Academic Publishing, Amsterdam, The Netherlands.
- ZABRISKIE, J. L. 1895. Egg-capsules of *Chrysochus auratus* (Fab.). Journal of the New York Entomological Society 3:192.
- ZAPPE, M. P. 1917. Flea beetle on ash. Annual Report of the Connecticut Agricultural Experiment Station 40:141.
- ZAPPE, M. P. 1929. Notes on fruit insects in 1928. Connecticut Agricultural Experiment Station Bulletin 305:728-729.
- ZARAGOZA C., S. 1966. Contribución al estudio de los crisomélidos de México. I. (Coleoptera: Chrysomelidae). Anales del Instituto de Biología (Universidad Nacional Autónoma de México) 37(1-2):143-154.
- ZAYAS, F. 1960. Contribución al estudio de los *Cryptocephalus* Cubanos (Coleoptera Chrysomelidae) y adición de 25 nuevas especies y formas a la fauna. Memorias de la Sociedad Cubana de Historia Natural 24(2):135-217.
- ZEHNDER, G. W., L. SANDHILL, A. M. TISLER, AND T. O. POWERS. 1992. Mitochondrial DNA diversity among 17 geographic populations of *Leptinotarsa decemlineata* (Coleoptera: Chrysomelidae). Annals of the Entomological Society of America 85(2):234-240.
- ZHANG, Z. AND P. B. MCEVOY. 1995. Responses of ragwort flea beetle *Longitarsus jacobaeae* (Coleoptera: Chrysomelidae) to signals from host plants. Bulletin of Entomological Research 85:437-444.
- ZIMMER, J. F. 1909. List of insects affecting the maple. The Ohio Naturalist 10(2):36-38.
- ZOLLER, *. 1968. A flea beetle (*Altica torquata*). Cooperative Economic Insect Report 18(20):422.
- ZWÖLFER, H. 1965. Observations on the distribution and ecology of *Altica carduorum* Guer. (Col. Chrysom.). Commonwealth Institute of Biological Control, Technical Bulletin 5:129-141.
- ZWÖLFER, H. 1969. Experimental feeding ranges of species of Chrysomelidae (Col.) associated with Cynareae (Compositae) in Europe. Commonwealth Institute of Biological Control, Technical Bulletin 12:115-130.
- ZWÖLFER, H. AND O. EICHHORN. 1966. The host ranges of *Cassida* spp. (Col. Chrysomelidae) attacking Cynareae (Compositae) in Europe. Zeitschrift für angewandte Entomologie 58:384-397.

Appendix 1

Classification of Leaf Beetle Genera in the United States and Canada

(List includes some genera erroneously reported from North America)

Family Megalopodidae**Subfamily Zeugophorinae***Zeugophora* Kunze**Family Orsodacnidae****Subfamily Orsodacninae***Orsodacne* Latreille**Subfamily Aulacoscelidinae***Aulacoscelis* Duponchel & Chevrolat*Janbechynea* Monrós**Family Chrysomelidae****Subfamily Bruchinae** (not treated herein)**Subfamily Donaciinae**

Tribe Plateumarini

Plateumaris Thomson*Poecilocera* Schaeffer

Tribe Donaciini

Donacia Fabricius*Donaciella* Reitter

Tribe Haemoniini

Neohaemonia Székessy**Subfamily Criocerinae**

Tribe Criocerini

Crioceris Geoffroy*Lilioceris* Reitter

Tribe Lemini

Lema Fabricius*Neolema* Monrós*Oulema* Gozis**Subfamily Cassidinae**

Tribe Cephaloleiini

Stenispa Baly

Tribe Cryptonychini

Brontispa Sharp

Tribe Chalepini

Anisostena Weise*Baliosus* Weise*Brachycoryna* Guérin-Ménéville*Chalepus* Thunberg*Glyphuroplata* Uhmman*Ocotoma* Dejean*Odontota* Chevrolat*Pentispa* Chapuis*Platocthispa* Uhmman*Microrhopala* Chevrolat*Stenopodius* Horn*Sumitrosis* Butte*Uroplata* Chevrolat*Xenochalepus* Weise

Tribe Hemisphaerotini

Hemisphaerota Chevrolat

Tribe Omocerini

Polychalca Chevrolat

Tribe Mesomphaliini

Chelymorpha Chevrolat*Hilarocassis* Spaeth

Tribe Ischyrosonychini

Physonota Boheman

Tribe Cassidini

Agroiconota Spaeth*Aspidimorpha* Hope*Cassida* Linnaeus*Charidotella* Weise*Coptocycla* Chevrolat*Deloyala* Chevrolat*Erepsocassis* Spaeth*Floridocassis* Spaeth*Gratiana* Spaeth*Jonthonota* Spaeth*Metrionella* Spaeth*Microtenochira* Spaeth*Opacinota* Riley*Parorectis* Spaeth*Plagiometriona* Spaeth*Strongylocassis* Hincks**Subfamily Chrysomelinae**

Tribe Timarchini

Timarcha Latreille

Tribe Chrysomelini

Cadiz Andrews & Gilbert*Calligrapha* Chevrolat*Chrysolina* Motschulsky*Chrysomela* Linnaeus*Chrysophtharta* Weise*Entomoscelis* Chevrolat*Gastrophysa* Chevrolat*Gonioctena* Chevrolat*Labidomera* Chevrolat*Leptinotarsa* Chevrolat*Microtheca* Stål*Phaedon* Megerle von Mühlfeld*Phratora* Chevrolat

Plagiodera Chevrolat
Prasocuris Latreille
Trachymela Weise
Zygogramma Chevrolat

Subfamily Galerucinae

Tribe Galerucini

Brucita Wilcox
Coraia Clark
Derospidea Blake
Diorhabda Weise
Erynephala Blake
Galeruca Geoffroy
Galerucella Crotch
Miraces Jacoby
Monocesta Clark
Monoxia LeConte
Neogalerucella Chûjô
Neolochmaea Laboissière
Ophraea Jacoby
Ophraella Wilcox
Pyrrhalta Joannis
Tricholochmaea Laboissière
Trirhabda LeConte
Xanthogaleruca Laboissière

Tribe Metacyclini

Malacorhinus Jacoby
Metacycla Baly

Tribe Hylaspini

Agelastica Chevrolat
Sermylassa Reitter

Tribe Luperini

Acalymma Barber
Amphelasma Barber
Androlyperus Crotch
Cerotoma Chevrolat
Cyclotrypema Blake
Diabrotica Chevrolat
Eusattodera Schaeffer
Keithatus Wilcox
Luperosoma Jacoby
Lygistus Wilcox
Metrioidea Fairmaire
Neobrotica Jacoby
Paranapiacaba Bechyné
Paratriarius Schaeffer
Phyllobrotica Chevrolat
Phyllecthris Dejean
Pseudoluperus Beller & Hatch
Pteleon Jacoby
Scelida Chapuis
Scelolyperus Crotch
Synetocephalus Fall
Trachyscelida Horn

Triarius Jacoby

Tribe Alticini

Acallepitrax Bechyné
Acrocyum Jacoby
Agasicles Jacoby
Altica Geoffroy
Aphthona Chevrolat
Argopistes Motschulsky
Asphaera Duponchel & Chevrolat
Blepharida Chevrolat
Capraita Bechyné
Cerataltica Crotch
Chaetocnema Stephens
Crepidodera Chevrolat
Derocrepis Weise
Dibolia Latreille
Disonycha Chevrolat
Distigmoptera Blake
Dysphenges Horn
Epitrix Foudras
Glenidion Clark
Glyptina LeConte
Hemiglyptus Horn
Hemiphrynus Horn
Hippuriphila Foudras
Hornaltica Barber
Hypolampsis Clark
Kuschelina Bechyné
Longitarsus Berthold
Luperaltica Crotch
Lupraea Jacoby
Lysathia Bechyné
Mantura Stephens
Margaridisa Bechyné
Monomacra Chevrolat
Neocrepidodera Heikertinger
Nesaecrepida Blake
Omophoita Chevrolat
Orthaltica Crotch
Pachyonychis Clark
Pachyonychus Melsheimer
Parchicola Bechyné & Bechyné
Phydanis Horn
Phyllotreta Chevrolat
Pseudodibolia Jacoby
Pseudolampsis Horn
Pseudorthygia Csiki
Psylliodes Berthold
Sphaeroderma Stephens
Strabala Chevrolat
Syphrea Baly
Systema Chevrolat
Trichaltica Harold

Subfamily Eumolpinae

Tribe Synetini

Syneta Dejean*Thricolema* Crotch

Tribe Typophorini

Graphops LeConte*Metachroma* Chevrolat*Pagria* Lefèvre*Paria* LeConte*Typophorus* Chevrolat

Tribe Eumolpini

Brachypnoea Gistel*Chrysochus* Chevrolat*Chrysodinopsis* Bechyné*Colaspis* Fabricius*Eumolpus* Weber*Euphrytus* Jacoby*Glyptoscelis* Chevrolat*Metaparia* Crotch*Metaxyonycha* Chevrolat*Myochrous* Erichson*Percolaspis* Bechyné*Promecosoma* Lefèvre*Rhabdopterus* Lefèvre*Spintherophyta* Dejean*Tymnes* Chapuis*Zenocolaspis* Bechyné

Tribe Megascelidini

Megascelis Latreille

Tribe Adoxini

Bromius Chevrolat*Colaspidea* Laporte*Demotina* Baly*Fidia* Baly*Xanthonia* Baly**Subfamily Lamprosomatinae**

Tribe Lamprosomatini

Lamprosoma Kirby*Oomorphus* Curtis**Subfamily Cryptocephalinae**

Tribe Cryptocephalini

Bassareus Haldeman*Cryptocephalus* Geoffroy*Diachus* LeConte*Griburius* Haldeman*Lexiphanes* Gistel*Pachybrachis* Chevrolat*Triachus* LeConte

Tribe Clytrini

Anomoea Agassiz*Babia* Chevrolat*Coleorozena* Moldenke*Coleothorpa* Moldenke*Coscinoptera* Lacordaire*Megalostomis* Chevrolat*Saxinis* Lacordaire*Smaragdina* Chevrolat*Urodera* Lacordaire

Tribe Chlamisini

Chlamisus Rafinesque*Diplacaspis* Jacobson*Exema* Lacordaire*Neochlamisus* Karren*Pseudochlamys* Lacordaire

Appendix 2

Classification of Vascular Plant Families Cited in this Publication

The following arrangement of families largely follows the modern classification of James L. Reveal*, but it also includes elements of older classifications that are more familiar to many biologists. Deviations from Reveal's system include our recognition of the families Asclepiadaceae, Empetraceae, Fumariaceae, Nolanaceae, Punicaceae, and Taxodiaceae.

*(<http://www.inform.umd.edu/PBIO/pb250/fernfam.html>; <http://www.inform.umd.edu/PBIO/pb250/gymnfam.html>; <http://www.life.umd.edu/emeritus/reveal/pbio/pb250/reve1.html>).

Division Lycopodiophyta

- Subdivision Lycopodiophytina
 - Class Lycopodiopsida
 - Subclass Selaginellidae
 - Order Selaginellales
 - Family Selaginellaceae

Division Equisetophyta

- Class Equisetopsida
 - Subclass Equisetidae
 - Order Equisetales
 - Family Equisetaceae

Division Polypodiophyta

- Subdivision Polypodiophytina
 - Class Polypodiopsida
 - Subclass Polypodiidae
 - Order Osmundales
 - Family Osmundaceae
 - Order Parkeriales
 - Family Dennstaedtiaceae
 - Subclass Salviniidae
 - Order Salviniiales
 - Family Salviniaceae
 - Family Azollaceae

Division Pinophyta

- Subdivision Cycadophytina
 - Class Cycadopsida
 - Subclass Cycadidae
 - Order Cycadales
 - Family Cycadaceae
- Subdivision Pinophytina
 - Class Pinopsida
 - Subclass Pinidae
 - Order Pinales
 - Family Pinaceae
 - Order Cupressales
 - Family Cupressaceae
 - Family Taxodiaceae
 - Subclass Taxidae
 - Order Taxales
 - Family Taxaceae

Subdivision Gnetophytina

- Class Ephedropsida
 - Subclass Ephedridae
 - Order Ephedrales
 - Family Ephedraceae

Division Magnoliophyta

- Class Magnoliopsida
 - Subclass Magnoliidae
 - Superorder Magnolianae
 - Order Illiciales
 - Family Illiciaceae
 - Order Magnoliales
 - Family Magnoliaceae
 - Order Annonales
 - Family Annonaceae
 - Superorder Lauranae
 - Order Laurales
 - Family Lauraceae
- Class Piperopsida
 - Subclass Piperidae
 - Superorder Piperanae
 - Order Piperales
 - Family Saururaceae
 - Family Piperaceae
 - Subclass Nymphaeidae
 - Superorder Nymphaeanae
 - Order Nymphaeales
 - Family Nymphaeaceae
 - Subclass Nelumbonidae
 - Superorder Nelumbonanae
 - Order Nelumbonales
 - Family Nelumbonaceae
 - Order Hydropeltidales
 - Family Hydropeltidaceae
 - Superorder Ceratophyllanae
 - Order Ceratophyllales
 - Family Ceratophyllaceae
 - Class Liliopsida
 - Subclass Alismatidae
 - Superorder Alismatanae
 - Order Alismatales

Appendix 2

- Family Alismataceae
- Order Hydrocharitales
 - Family Hydrocharitaceae
- Order Potamogetonales
 - Family Potamogetonaceae
- Subclass Aridae
 - Superorder Aranae
 - Order Arales
 - Family Araceae
- Subclass Liliidae
 - Superorder Lilianae
 - Order Dioscoreales
 - Family Dioscoreaceae
 - Order Smilacales
 - Family Smilacaceae
 - Order Liliales
 - Family Liliaceae
 - Order Orchidales
 - Family Orchidaceae
 - Order Iridales
 - Family Iridaceae
 - Order Amaryllidales
 - Family Amaryllidaceae
 - Order Agavales
 - Family Agavaceae
- Subclass Arecidae
 - Superorder Arecanae
 - Order Arecales
 - Family Arecaceae
- Subclass Commelinidae
 - Superorder Bromelianaes
 - Order Bromeliales
 - Family Bromeliaceae
 - Superorder Pontederianae
 - Order Haemodiales
 - Family Haemodoraceae
 - Order Pontederiales
 - Family Pontederiaceae
 - Superorder Commelinanae
 - Order Commelinales
 - Family Commelinaceae
 - Order Eriocaulales
 - Family Eriocaulaceae
 - Superorder Typhanae
 - Order Typhales
 - Family Typhaceae
 - Family Sparganiaceae
 - Superorder Juncanae
 - Order Junciales
 - Family Juncaceae
 - Order Cyperales
 - Family Cyperaceae
 - Order Poales

- Family Poaceae
- Subclass Zingiberidae
 - Superorder Zingiberanae
 - Order Zingiberales
 - Family Musaceae
 - Family Cannaceae
- Class Ranunculopsida
 - Subclass Ranunculidae
 - Superorder Ranunculanae
 - Order Menispermiales
 - Family Menispermaceae
 - Order Berberidales
 - Family Berberidaceae
 - Order Ranunculales
 - Family Ranunculaceae
 - Order Paeoniales
 - Family Paeoniaceae
 - Order Papaverales
 - Family Papaveraceae
 - Family Fumariaceae
 - Class Rosopsida
 - Subclass Caryophyllidae
 - Superorder Caryophyllanae
 - Order Caryophyllales
 - Family Portulacaceae
 - Family Cactaceae
 - Family Phytolaccaceae
 - Family Nyctaginaceae
 - Family Aizoaceae
 - Family Chenopodiaceae
 - Family Amaranthaceae
 - Family Caryophyllaceae
 - Superorder Polygonanae
 - Order Polygonales
 - Family Polygonaceae
 - Superorder Plumbaginanae
 - Order Plumbaginales
 - Family Plumbaginaceae
 - Subclass Hamamelididae
 - Superorder Hamamelidanae
 - Order Hamamelidales
 - Family Hamamelidaceae
 - Family Platanaceae
 - Superorder Juglandanae
 - Order Fagales
 - Family Fagaceae
 - Order Corylales
 - Family Betulaceae
 - Order Myricales
 - Family Myricaceae
 - Order Juglandales
 - Family Juglandaceae
 - Subclass Dilleniidae

Superorder Theanae	Family Thymelaeaceae
Order Theales	Superorder Cucurbitanae
Family Theaceae	Order Cucurbitales
Family Clusiaceae	Family Cucurbitaceae
Superorder Lecythidanae	Superorder Urticanae
Order Lecythidales	Order Urticales
Family Lecythidaceae	Family Ulmaceae
Superorder Sarracenianae	Family Moraceae
Order Sarraceniales	Family Urticaceae
Family Sarraceniaceae	Family Cannabaceae
Superorder Ericanae	Superorder Euphorbianae
Order Ericales	Order Euphorbiales
Family Cyrillaceae	Family Euphorbiaceae
Family Clethraceae	Subclass Rosidae
Family Ericaceae	Superorder Saxifraganae
Family Empetraceae	Order Saxifragales
Superorder Primulanae	Family Crassulaceae
Order Styracales	Family Grossulariaceae
Family Styracaceae	Family Saxifragaceae
Family Symplocaceae	Superorder Podostemanae
Family Ebenaceae	Order Haloragales
Family Sapotaceae	Family Haloragaceae
Order Primulales	Superorder Celastranae
Family Primulaceae	Order Celastrales
Superorder Violanae	Family Celastraceae
Order Violales	Order Aquifoliales
Family Flacourtiaceae	Family Aquifoliaceae
Family Violaceae	Superorder Santalanae
Order Passiflorales	Order Santalales
Family Passifloraceae	Family Santalaceae
Order Caricales	Family Viscaceae
Family Caricaceae	Superorder Rosanae
Order Salicales	Order Rosales
Family Salicaceae	Family Rosaceae
Order Tamaricales	Family Chrysobalanaceae
Family Tamaricaceae	Superorder Geranianae
Family Frankeniaceae	Order Geraniales
Superorder Capparanae	Family Oxalidaceae
Order Batales	Family Geraniaceae
Family Bataceae	Order Linales
Order Capparales	Family Linaceae
Family Capparaceae	Family Zygophyllaceae
Family Brassicaceae	Order Balsaminales
Family Resedaceae	Family Balsaminaceae
Superorder Malvanae	Order Vochysiales
Order Cistales	Family Malpighiaceae
Family Cistaceae	Order Polygalales
Order Malvales	Family Polygalaceae
Family Tiliaceae	Superorder Fabanae
Family Sterculiaceae	Order Fabales
Family Bombacaceae	Family Fabaceae
Family Malvaceae	Superorder Rutanae
Order Thymelaeales	Order Sapindales

Appendix 2

Family Staphyleaceae	Family Rubiaceae
Family Sapindaceae	Order Apocynales
Family Hippocastanaceae	Family Apocynaceae
Family Aceraceae	Family Asclepiadaceae
Order Tropaeolales	Superorder Solananae
Family Tropaeolaceae	Order Solanales
Order Limnanthales	Family Solanaceae
Family Limnanthaceae	Family Nolanaceae
Order Rutales	Family Convolvulaceae
Family Rutaceae	Family Cuscutaceae
Family Meliaceae	Family Polemoniaceae
Order Burserales	Family Hydrophyllaceae
Family Burseraceae	Family Boraginaceae
Family Anacardiaceae	Superorder Loasanae
Superorder Rhamnanae	Order Loasales
Order Rhamnales	Family Loasaceae
Family Rhamnaceae	Superorder Oleanae
Superorder Vitanae	Order Oleales
Order Vitales	Family Oleaceae
Family Vitaceae	Superorder Lamianae
Superorder Rhizophoranae	Order Lamiales
Order Rhizophorales	Family Buddlejaceae
Family Rhizophoraceae	Family Bignoniaceae
Superorder Myrtanae	Family Scrophulariaceae
Order Myrtales	Family Orobanchaceae
Family Melastomataceae	Family Plantaginaceae
Family Combretaceae	Family Pedaliaceae
Family Myrtaceae	Family Acanthaceae
Family Lythraceae	Family Verbenaceae
Family Punicaceae	Family Phrymaceae
Family Trapaceae	Family Avicenniaceae
Family Onagraceae	Family Lamiaceae
Subclass Cornidae	Subclass Asteridae
Superorder Cornanae	Superorder Campanulanae
Order Hydrangeales	Order Menyanthales
Family Hydrangeaceae	Family Menyanthaceae
Order Cornales	Order Campanulales
Family Nyssaceae	Family Campanulaceae
Family Cornaceae	Superorder Asteranae
Superorder Aralianae	Order Asterales
Order Araliales	Family Asteraceae
Family Araliaceae	
Family Apiaceae	
Superorder Dipsacanae	
Order Dipsacales	
Family Caprifoliaceae	
Family Valerianaceae	
Family Dipsacaceae	
Subclass Lamiidae	
Superorder Gentiananae	
Order Gentianales	
Family Gentianaceae	
Order Rubiales	

About the Society

The **Coleopterists Society** is an international organization devoted to the study of all aspects of systematics and biology of beetles of the world. Membership is open to anyone interested in beetles. The Society publishes The Coleopterists Bulletin, a fully refereed quarterly professional journal (March, June, September, December), The Coleopterists Society Monographs, Patricia Vaurie Series, and Special Publications.

The cost of individual membership in the society is \$30.00US (institutional memberships, \$50.00US) and includes: subscription to the Bulletin and annual Monograph issue (if published), eligibility for reduced page charges when publishing in the Bulletin, and eligibility to submit notices concerning specimens or literature available or desired.

New members are asked to include phone, fax, email, and an indication of their interests in beetles for inclusion in the membership directory

To join, subscribe or purchase items, including additional copies of this Special Publication, please use the ON-LINE ORDER FORM (<http://www.coleopsoc.org/coleinfo.shtml>), or contact the Treasurer by email at: treasurer@coleopsoc.org

